

**REPORT OF REMEDIATION  
AND CONFIRMATION SAMPLING ACTIVITIES**

January 31, 2006

**FORMER 76 STATION 0353  
200 South Central Avenue  
Glendale, California**

**LARWQCB FILE NO. 912040107**

**Prepared For:**

**CONOCOPHILLIPS COMPANY**

**Prepared By:**

**TRC  
21 Technology Drive  
Irvine, California 92618**

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Prepared For:

ConocoPhillips Company  
3611 South Harbor Boulevard, Suite 200  
Santa Ana, California

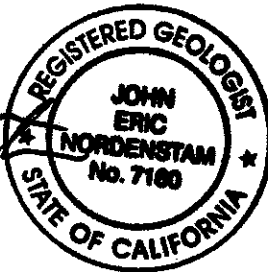
By:

*Robert J. Ponce, Jr.*

Robert J. Ponce, Jr.  
Project Engineer

*John Nordenstam*

John Nordenstam, PG  
Senior Project Geologist



TRC  
21 Technology Drive  
Irvine, California 92618

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## **1.0 INTRODUCTION**

This report summarizes the remediation and confirmation soil sampling activities conducted at former 76 Station 0353, located at 200 South Central Avenue in Glendale, California (see Figure 1). The following scope of work was conducted:

### *Remediation Activities*

- Vapor extraction testing (September 26 and 27, 2005)
- Site remediation using vapor extraction (September 27 through October 27, 2005).
- Vapor extraction rebound testing (November 14 through 15, 2005)

### *Confirmation Soil Sampling*

- Confirmation soil borings (December 5 through December 8, 2005).

This scope of work was conducted in accordance with the TRC Remedial Action Plan dated July 11, 2005, and the TRC Notice of Intent Letter dated August 31, 2005. The licensed professional in responsible charge supervised all work associated with the project within the purview of the professional as defined in the Geologist and Geophysicists Act of the California Code of Regulations.

## **2.0 BACKGROUND**

### **2.1 SITE DESCRIPTION**

*Present Site Use:* The site is an inactive service station located on the southeast corner of South Central Avenue and West Harvard Street. The site is currently a fenced, vacant lot. All former service station facilities have been removed from the site (see Figure 2).

*Future Site Use:* The City of Glendale acquired the property from ConocoPhillips through condemnation proceedings. The City of Glendale Redevelopment Agency is planning on redeveloping the site with a mix of retail and residential uses.

*Adjacent Properties:* The Glendale Galleria Shopping Center is located west of the site. The properties north, east and south of the site are part of the planned redevelopment and are currently vacant.

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### *Geography:*

The site is located within the southeastern portion of the San Fernando Valley between the eastern end of the Santa Monica Mountains (approximately 1 mile to the west of the site) and the Verdugo Mountains (approximately 1.5 miles east of the site). Interstate 5 and the Los Angeles River (in a concrete lined channel) are located approximately 1 mile west of the site. Verdugo Wash is located approximately 1 mile north of the site. The site is located at an elevation of approximately 517 feet above mean sea level (NGVD-1929). The topography in the area slopes gently to the southwest (United States Geological Survey, 1966).

### *Regional Geology/ Hydrogeology:*

The site is located within the Upper Los Angeles River Area (ULARA). The ULARA encompasses all the watershed of the Los Angeles River and its tributaries above a point in the river designated as Los Angeles County Department of Public Works (LACDPW) Gauging Station F-57C-R, near the junction of the Los Angeles River and the Arroyo Seco. The ULARA is bounded on the north and northwest by the Santa Susana Mountains; on the north and northeast by the San Gabriel Mountains; on the east by the San Rafael Hills, which separate it from the San Gabriel Basin; on the south by the Santa Monica Mountains, which separate it from the Los Angeles Coastal Plain; and on the west by the Simi Hills (ULARA Watermaster, 2003).

The ULARA has four distinct groundwater basins. The water supplies of these basins are separate and are replenished by deep percolation from rainfall, surface runoff and from a portion of the water that is delivered for use within these basins. The four groundwater basins in the ULARA are the San Fernando, Sylmar, Verdugo, and Eagle Rock Basins (ULARA Watermaster, 2003).

The site is located within the southeastern portion of the San Fernando Basin. The San Fernando Basin is the largest of the four groundwater basins within the ULARA. It is bounded on the east and northeast by the San Rafael Hills, Verdugo Mountains, and the San Gabriel Mountains; on the north by the San Gabriel Mountains and the eroded south limb of the Little Tujunga Syncline which separates it from the Sylmar Basin; on the northwest and west by the

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Santa Susana Mountains and the Simi Hills; and on the south by the Santa Monica Mountains (ULARA Watermaster, 2003).

Regional groundwater in the area of the site occurs in Quaternary alluvial deposits consisting primarily of sand and gravels with localized, interbedded lenses of silt and clay. The alluvium overlies sandstone and conglomerates of the Topanga Formation (Department of Water and Power, 1983). The regional groundwater flow in the area of the site is directed toward the southwest (ULARA Watermaster, 2003).

The site is located within the Crystal Springs Well Field. The Crystal Springs Well Field is on the Federal National Priority List (NPL) as a Federal Superfund site due to the presence of chlorinated hydrocarbons in the groundwater (City of Glendale-Water Section, 1993). Although the site is located within the Crystal Springs Well Field NPL Superfund site, the actual chlorinated solvent plume in Glendale is limited to areas along San Fernando Road and west of San Fernando Road, approximately 3,500 feet west of the site (ULARA Watermaster, 2003). A groundwater extraction and treatment facility was constructed in October 1999 to remediate contaminated groundwater within the Crystal Springs Well Field (City of Glendale-Water Section, 1993).

## **2.2 PREVIOUS INVESTIGATIONS**

In July 1994, two 10,000-gallon gasoline underground storage tanks (USTs) and one 550-gallon waste oil UST were excavated and removed from the site. Eight soil samples (BT-1 through BT-8) were collected from the gasoline UST excavation at approximately 16 feet below grade (fbg). Two soil samples (BT-9 and BT-10) were collected from the waste oil UST excavation at approximately 9 fbg. Six soil samples (DI-1 through DI-6) were collected from beneath the former dispensers at approximately 3 fbg. Two soil samples (PL-1 and PL-2) were collected from beneath the former product lines at approximately 3 fbg (Emcon, 1996).

Concentrations of total petroleum hydrocarbons as gasoline (TPH-G) of 998 and 1,295 milligrams per kilogram (mg/kg) were detected in Soil Samples BT-4 and BT-8, respectively, collected from the eastern portion of the gasoline UST excavation. No detectable concentrations of TPH-G; total recoverable petroleum hydrocarbons (TRPH); benzene, toluene, ethylbenzene, or total xylenes (BTEX) were present in Soil Samples BT-9 and BT-10 collected from the waste oil UST

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excavation. A TPH-G concentration of 4,562 mg/kg was detected in Soil Sample DI-6 collected from the eastern portion of the eastern dispenser island. No detectable concentrations of TPH-G or BTEX were present in Soil Sample PL-1 collected from the beneath the product lines. Concentrations of 0.009 and 0.011 mg/kg of toluene and total xylenes, respectively, were detected in Soil Sample PL-2; no detectable concentrations of TPH-G, benzene, or ethylbenzene were present in this sample (Emcon, 1996).

Based on the results of laboratory analysis of soil samples collected during UST removal activities, the eastern portion of the eastern dispenser island and the eastern portion of the gasoline UST excavation were over excavated to depths of approximately 7 and 20 fbg, respectively. Two soil samples (BT-4A and BT-8A) were collected from the gasoline UST over excavation and one soil sample (DI-6A) was collected from the dispenser island over excavation. No detectable concentration of TPH-G was present in Soil Sample BT-4A. Detectable TPH-G concentrations of 683 and 3,458 mg/kg were present in Soil Samples BT-8A and DI-6A, respectively (Emcon, 1996).

Following soil sampling and over excavation activities, two 20,000-gallon gasoline USTs were installed in the same area as the former gasoline USTs (oriented north-south vs. east-west orientation of former gasoline USTs) and a 550-gallon waste oil UST was installed at the same location as the former waste oil UST (Emcon, 1996).

In March 1995, six borings (E-1 through E-6 and E-1A) were drilled in the vicinity of the gasoline USTs and the eastern dispenser island (see Figure 2). Boring E-1 was drilled through a conductor casing installed in the eastern portion of the gasoline UST excavation. Boring E-1 was only drilled to a total depth of approximately 25 fbg due to auger refusal. Borings E-1A, E-1, and E-2 were converted to vapor extraction wells. Groundwater was not encountered during this investigation (maximum depth of investigation approximately 73.5 fbg). A maximum TPH-G concentration of 2,800 mg/kg was detected in the soil sample collected from Boring E-1 at approximately 25 fbg. A maximum TPH-G concentration of 940 mg/kg was detected in the soil sample collected from Boring E-1A at approximately 51 fbg. Concentrations of TPH-G ranging from non-detect to less than 2 mg/kg were detected in soil samples collected from Borings E-2 through E-5 (Emcon, 1996).

In April 1995, a vapor extraction test was conducted at the site using Vapor Wells E-1A, E-1, and E-2. Flow rates ranging from approximately 19.8 to 39.5 standard cubic feet per minute (scfm) and vacuum ranging from approximately 2.1 to 13 inches of water were observed during testing activities. Concentrations of TPH-G ranging from 2,700 to 19,000 parts per million by volume (ppmv) were detected in vapor samples collected from Wells E-1, E-1A, and E-2. Based on the results of the testing activities, the estimated radius of influence (ERI) ranged from approximately 28 to 32 feet (Emcon, 1996).



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In May 1998, the City of Glendale Fire Department issued site closure based on the designation of the property as a "low risk" site.

In February 2004, at the request of the Glendale Redevelopment Agency, six borings (B1 through B6) and 48 direct-push borings (GP-1 through GP-48) were drilled and sampled at the site (see Figure 2). Groundwater was encountered at approximately 105 fbg during soil sampling activities. Maximum TPH-G and benzene concentrations of 24,300 and 75.3 mg/kg, respectively, were detected in the soil sample collected from Boring B1 at approximately 55 fbg. A maximum methyl tertiary butyl ether (MTBE) concentration of 0.646 mg/kg was detected in the soil sample collected from Boring B4 at approximately 55 fbg. A maximum tertiary butyl alcohol (TBA) concentration of 0.181 mg/kg was detected in the soil sample collected from Boring B3 at approximately 55 fbg. In addition, four shallow (less than 10 feet deep) and two deeper (up to approximately 15 feet deep), diesel/heavy-end hydrocarbon soil plumes were detected in the southern portion of the site (EP Associates, 2004a).

In August 2004, Monitoring Wells MW-1 through MW-5 were drilled and installed at the site (see Figure 2). Groundwater was encountered at approximately 100 fbg during well installation activities. A maximum TPH-G concentration of 2,200 mg/kg was detected in the soil sample collected from Monitoring Well MW-3 at approximately 75 fbg. Maximum MTBE and TBA concentrations of 0.391 and 0.610 mg/kg, respectively, were detected in the soil sample collected from Monitoring Well MW-1 at approximately 55 fbg (EP Associates, 2004b).

A quarterly fluid level monitoring and groundwater sampling program was initiated in September 2004 and continues to date (TRC, 2005c).

In December 2004, Monitoring Wells MW-6 through MW-9 were drilled and installed at the site (see Figure 2). Groundwater was encountered at approximately 102.5 to 105 fbg during well installation activities. One soil sample was collected from each monitoring well at approximately 105 fbg. No detectable concentrations of TPH-G, TPH as diesel (TPH-D), BTEX, MTBE, diisopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), TBA, or volatile organic compounds (VOCs) were present in the soil samples collected from Monitoring Wells MW-6 through MW-9 at approximately 105 fbg (EP Associates, 2005).

In July 2005, in order to facilitate removal of the gasoline USTs, onsite Monitoring Wells MW-1 and MW-3 were properly abandoned (TRC, 2005a).

In July 2005, site demolition activities were conducted. Two 20,000-gallon gasoline USTs, one 550-gallon waste oil UST, associated product lines and dispensers were excavated and removed from the site. Eight soil samples (TC-1 through TC-8) were collected from the gasoline UST

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excavation at approximately 17 fbg. Two soil samples (WO-1 and WO-2) were collected from the waste oil UST excavation at approximately 7 and 9 fbg. Five soil samples (D-1 through D-5) were collected from beneath the dispensers at depths ranging from approximately 3 to 4 fbg. Six soil samples (PL-1 through PL-6) were collected from beneath the product lines at depths ranging from approximately 2.5 to 4 fbg. Three soil samples (VL-1, VL-2, and VL-3) were collected from beneath the vent lines at depths of 3.5 and 4 fbg. Two soil samples (H-1 and H-2) were collected from beneath the hydraulic hoists at depths of approximately 8.5 and 9 fbg, and two soil samples (C-1 and C-2) were collected from beneath the clarifier at approximately 5.5 fbg. No detectable concentrations of TPH-G, BTEX, MTBE, DIPE, ETBE, TAME, TBA or ethanol were present in soil samples collected from beneath the former: gasoline USTs (TC-1 through TC-8), dispensers (D-1 through D-5), product lines (PL-1 through PL-6), or vent lines (VL-1 through VL-3). No detectable concentrations of TRPH, TPH-G, BTEX, MTBE, DIPE, ETBE, TAME, TBA or ethanol were present in soil samples collected from beneath the former hydraulic hoists (H-1 and H-2) or clarifier (C-1 and C-2). TRPH concentrations of 55 and 790 mg/kg were present in Soil Samples WO-1 and WO-2, respectively, collected from beneath the former waste oil UST. Total lead concentrations were detected in Soil Samples TC-1 (8.3 mg/kg), TC-2 (6.2 mg/kg), WO-1 (3.4 mg/kg), and WO-2 (13 mg/kg) (TRC, 2005b).

In August 2005, Monitoring Wells MW-1A and MW-3A, and Vapor Wells VW-1A/B/C, VW-2A/B/C, and VW-3A/B/C were installed in the vicinity of the former gasoline USTs (see Figure 2). A maximum total purgeable petroleum hydrocarbon (TPPH) concentration of 390 mg/kg was detected in the soil sample collected from Monitoring Well MW-1A at approximately 51 fbg. A maximum benzene concentration of 0.033 mg/kg was detected in the soil sample collected from Vapor Well VW-3B/C at approximately 65.5 fbg. A maximum MTBE concentration of 0.63 mg/kg was detected in the soil sample collected from Vapor Well VW-3B/C at approximately 91.5 fbg (TRC, 2005d).

In August 2005, a total of eight soil gas probes were installed at the site (see Figure 2). Two clusters of 3 soil gas probes each (SG-1 and SG-2) were installed in the gasoline UST area and two single soil gas probes (SG-3 and SG-4) were installed in the southern portion of the site. The soil gas probe clusters (SG-1 and SG-2) consisted of 3 soil gas probes installed at depths of approximately 15, 20, and 25 fbg. Soil Gas Probes SG-3 and SG-4 were installed to total depths of approximately 15 fbg. A maximum TPH-G concentration of 2.3 ppmv was detected in the soil vapor sample collected from Soil Gas Probe SG-1 at approximately 20.0 fbg. A maximum benzene concentration of 0.0021 ppmv was detected in the soil vapor sample collected from Soil Gas Probe SG-4 at approximately 15.0 fbg. A maximum MTBE concentration 0.0064 ppmv was detected in the soil vapor sample collected from Soil Gas Probe SG-2 at approximately 20.0 fbg (TRC, 2005d).

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In August 2005, a risk assessment was conducted to evaluate if contaminated soil present beneath the site poses a potential risk to humans associated with the proposed development of the site. Potential site uses evaluated in this analysis included both future residential and commercial development alternatives, including the construction of an underground parking area. The results of this analysis indicate that potential upper-bound exposures to hydrocarbons in indoor air under future residential and commercial land uses are below the range of acceptable risks typically established by the Environmental Protection Agency (EPA), CalEPA, and other regulatory entities. (TRC, 2006).

Based on the results of quarterly fluid level monitoring and groundwater sampling activities conducted in October 2005:

- Groundwater is present at depths ranging from approximately 99 to 101 fbg. The groundwater gradient is approximately 0.01 foot per foot directed toward the west (TRC, 2005c).
- A J-Flag TPPH concentration [between the Practical Quantitation Limit and Method Detection Limit] of 33 micrograms per liter (ug/l) was detected in the groundwater sample collected from Monitoring Well MW-3A. No detectable concentrations of TPPH were present in groundwater samples collected from Monitoring Wells MW-1A, MW-2, and MW-4 through MW-9 (TRC, 2005c).
- Detectable MTBE concentrations of 50 and 2.4 ug/l were present in the groundwater samples collected from Monitoring Wells MW-1A and MW-3A, respectively. J-Flag MTBE concentrations of 0.38 and 1.8 ug/l were present in groundwater samples collected from Monitoring Wells MW-2 and MW-6, respectively. No detectable concentrations of MTBE were present in groundwater samples collected from Monitoring Wells MW-4, MW-5, and MW-7 through MW-9 (TRC, 2005c).
- No detectable concentrations of BTEX, DIPE, ETBE, TAME, TBA, or ethanol were present in groundwater samples collected from Monitoring Wells MW-1A, MW-2, MW-3A, and MW-4 through MW-9 (TRC, 2005c).

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### 3.0 REMEDIATION ACTIVITIES

#### 3.1 VAPOR EXTRACTION TESTING

Vapor extraction testing activities were conducted at the site on September 26 and 27, 2005. The general test procedures consisted of extracting vapors from one well (extraction well) and observing vacuum responses in other wells (observation wells). Separate step-flow-rate tests were performed using Wells MW-1A, VW-1A, VW-1B, and VW-1C as the extraction well (see Figure 2). During the step-flow-rate tests, applied vacuum was increased in stepwise fashion until stabilization of extraction well flow and vacuum was achieved for each step. Separate constant-flow-rate tests were performed using Wells MW-1A, VW-1A, VW-1B, VW-1C and MW-1A as extraction wells (see Figure 2). During the constant-flow-rate tests, extraction well vacuum and flow were held constant and the test continued until stabilization of vacuum response was achieved in the observation wells.

A summary of the vapor extraction test configurations is presented below:

Vapor Extraction Test	Test Type	Extraction Well	Observation Wells
1	Step	VW-1A	VW-1B, VW-1C, VW-2A, and VW-3A
2	Step	VW-1B	VW-1A, VW-1C, VW-2B, VW-3A, and VW-3B
3	Step	VW-1C	VW-1A, VW-1B, VW-2C and VW-3C
4	Step	MW-1A	VW-1A, VW-1B, VW-1C, MW-2 and MW-3A
5	Constant	VW-1A	VW-2A, VW-2B, VW-3A and VW-3B
6	Constant	VW-1B	VW-2A, VW-2B, VW-3A and VW-3B
7	Constant	VW-1C	VW-2B, VW-2C, VW-3B and VW-3C
8	Constant	MW-1A	VW-1C, VW-2C, MW-2 and MW-3A

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A summary of the results of vapor extraction testing activities is presented on Charts 1 through 5. Refer to Appendix A for a summary of vapor extraction testing protocol and copies of the field data. A glossary of terms used in conducting vapor extraction tests is included in Appendix B.

### **3.2 VAPOR EXTRACTION ACTIVITIES**

Vapor extraction activities were conducted at the site from September 27, 2005 through October 27, 2005. Wells MW-1A, MW-2, MW-3A, VW-1A/B/C, VW-2A/B/C, and VW-3A/B/C were utilized during vapor extraction activities (see Figure 2). The operation of the vapor extraction system (VES) was optimized on a daily basis during vapor extraction activities. Refer to Appendix C for details of VES operation, hydrocarbon recovery, and vapor well and treatment system influent concentrations during vapor extraction activities.

### **3.3 VAPOR REBOUND TESTING**

On November 14 and 15, 2005, vapor rebound testing activities were conducted at the site to assess any residual hydrocarbon vapors that may be present in the subsurface beneath the site. Wells VW-1A/B, VW-2A/B, and VW-3A/B were utilized during vapor rebound testing activities (see Figure 2). Wells MW-1A, MW-2, MW-3A, VW-1C, VW-2C and VW-3C were not utilized during vapor rebound testing due to the initial low influent concentrations observed in these wells during vapor extraction activities. The operation of the VES was optimized continuously during vapor rebound testing activities. Refer to Appendix C for details of VES operation, hydrocarbon recovery, and vapor well and treatment system influent concentrations during vapor rebound testing activities.

### **3.4 LABORATORY ANALYSIS**

Vapor samples were collected from individual vapor wells at system start up and shutdown. Additional vapor samples were collected from select wells during VES operations. Weekly system influent samples were also collected during VES operations. Vapor samples were submitted to a state-certified laboratory and analyzed for:

- TPH-G using EPA Method TO3.
- BTEX using EPA Method TO14A.
- MTBE, DIPE, ETBE, TAME, and TBA using EPA Method TO14A.

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Results of laboratory analysis of vapor samples are presented in Table 1. Copies of the official laboratory reports and chain of custody records are included in Appendix D.

### **4.0 CONFIRMATION SOIL SAMPLING**

#### **4.1 PRE-FIELD ACTIVITIES**

Prior to conducting confirmation soil sampling activities:

- A health and safety plan was prepared.
- The proposed boring locations were marked with white spray paint and Underground Service Alert (USA) was notified. The owners of underground utilities in the area were notified by USA, and the utilities present in the area of the proposed borings were marked.
- On December 1, 2005, a geophysical survey was conducted to locate underground utilities present in the area of the proposed borings.
- The LARWQCB, City of Glendale, and ConocoPhillips Company were notified at least 48 hours prior to conducting fieldwork at the site.

#### **4.2 SOIL SAMPLING ACTIVITIES**

On December 5 through 8, 2005, Confirmation Borings CB-1 through CB-6, and CB-2A were drilled in the vicinity of the former gasoline USTs using hollow stem auger drilling techniques. Refusal was encountered at approximately 41.5 fbg during drilling of Confirmation Boring CB-2. Therefore, Confirmation Boring CB-2A was drilled approximately 4 feet south of Confirmation Boring CB-2 (see Figure 2).

Soil samples were collected from the confirmation borings as follows:

- CB-1: at five foot intervals from approximately 5.0 to 101.5 fbg.
- CB-2: at five foot intervals from approximately 5.0 to 41.5 fbg.
- CB-2A: at five foot intervals from approximately 45.0 to 101.5 fbg.
- CB-3: at five foot intervals from approximately 5.0 to 101.5 fbg.
- CB-4: at five foot intervals from approximately 5.0 to 101.5 fbg.
- CB-5: at five foot intervals from approximately 5.0 to 101.5 fbg.
- CB-6: at five foot intervals from approximately 5.0 to 101.5 fbg.

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Soil samples were used for soil description, field hydrocarbon vapor testing, and laboratory analysis. Soil samples selected for laboratory analysis were collected in accordance with EPA Method 5035. Refer to Appendix E for copies of the boring logs.

Soil cuttings generated during soil sampling activities were temporarily stored onsite in closed top roll-off bins, prior to disposal at an appropriate facility. Fluids generated during soil sampling activities were temporarily stored onsite in Department of Transportation approved 55-gallon drums, prior to disposal at an appropriate facility. Refer to Appendix E for a description of general field procedures used during this investigation.

### **4.3 LABORATORY ANALYSIS**

Soil samples collected for laboratory analysis were submitted to a state-certified laboratory and analyzed for:

- TPPH using EPA Method 8260B.
- BTEX using EPA Method 8260B.
- MTBE, DIPE, ETBE, TAME, TBA, and ethanol using EPA Method 8260B.

Results of laboratory analysis of soil samples are presented in Table 2 and on Figure 3. Copies of the official laboratory reports and chain of custody records are included in Appendix D.

### **4.4 WASTE DISPOSAL**

On December 29, 2005, approximately 20 cubic yards of soil generated during confirmation soil sampling activities were transported to the Filter Recycling Services Inc. facility located in Rialto, California for recycling/disposal. A copy of the non-hazardous waste manifest is included in Appendix F.

On January 11, 2006, approximately 250 gallons of water generated during confirmation soil sampling activities were transported to the Filter Recycling Services, Inc. facility located in Rialto, California for recycling/disposal. A copy of the non-hazardous waste manifest is included in Appendix F.

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### 5.0 FINDINGS

#### 5.1 REMEDATION ACTIVITIES

##### 5.1.1 Vapor Extraction Testing

##### 5.1.1.1 Vacuum and Flow Results

A step-flow-rate test using extraction Well VW-1A with observation Wells VW-1B, VW-1C, VW-2A and VW-3A was conducted on September 26, 2005. The test results are presented below and illustrated on Chart 1.

STEP TEST USING WELL VW-1A						
Step	Flow (cfm)	Vacuum Response (inches of water)				
		Extraction Well	Observation Wells			
		VW-1A	VW-1B	VW-1C	VW-2A	VW-3A
Step 1	15	34	+0.06	+0.06	-0.10	-0.03
Step 2	22	40.8	-0.01	-0.02	+0.13	+0.07
Step 3	36	69.4	+0.26	+0.28	+0.17	+0.05
Step 4	48	107.4	+0.48	+0.53	+0.23	+0.08
Step 5	71	180.9	+0.41	+0.48	+0.33	+0.13

A step-flow-rate test using extraction Well VW-1B with observation Wells VW-1A, VW-1C, VW-2B, VW-3B and VW-3A was conducted on September 26, 2005. The test results are presented below and illustrated on Chart 1.

STEP TEST USING WELL VW-1B							
Step	Flow (cfm)	Vacuum Response (inches of water)					
		Extraction Well	Observation Wells				
		VW-1B	VW-1A	VW-1C	VW-2B	VW-3B	VW-3A
Step 1	33	66.6	0	+0.20	+1.30	+1.05	0
Step 2	44	95.2	0	+0.67	+2.07	+1.67	--
Step 3	56	136	0	+0.96	+2.66	+2.16	--
Step 4	73	182	+0.01	+1.21	+3.16	+2.60	--

A step-flow-rate test using extraction Well VW-1C with observation Wells VW-1A, VW-1B, VW-2C, and VW-3C was conducted on September 26, 2005. The test results are presented below and illustrated on Chart 1.



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STEP TEST USING WELL VW-1C						
Step	Flow (cfm)	Vacuum Response (inches of water)				
		Extraction Well	Observation Wells			
		VW-1C	VW-1A	VW-1B	VW-2C	VW-3C
Step 1	32	68	0	+0.84	+1.20	+1.10
Step 2	48	108.8	0	+1.27	+1.77	+1.63
Step 3	56	137.4	0	+1.40	+1.99	+1.86
Step 4	72	185	+0.01	+1.63	+2.31	+2.12

A step-flow-rate test using extraction Well MW-1A with observation Wells VW-1A, VW-1B, VW-1C, MW-2 and MW-3A was conducted on September 26 and 27, 2005. The test results are presented below and illustrated on Chart 1.

STEP TEST USING WELL MW-1A							
Step	Flow (cfm)	Vacuum Response (inches of water)					
		Extraction Well	Observation Wells				
		MW-1A	VW-1A	VW-1B	VW-1C	MW-2	MW-3A
Step 1	10	68	0	+0.41	+0.61	+0.79	+0.72
Step 2	13	109	+0.02	+0.53	+0.73	+1.56	+2.14
Step 3	15	150	0	+0.64	+0.80	+2.06	+4.02
Step 4	25	293.8	+0.01	+0.77	+1.08	+3.02	+6.56

A constant-flow-rate test using extraction Well VW-1A with observation Wells VW-2A, VW-2B, VW-3A, and VW-3B was conducted on September 27, 2005. The test results are presented below and illustrated on Chart 2.

CONSTANT RATE TEST USING WELL VW-1A		
Observation Well	Distance from Extraction Well (feet)	Vacuum Response (inches water)
VW-2A	22	+0.40
VW-2B	24	+0.30
VW-3A	27	+0.21
VW-3B	29	+0.21

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A constant-flow-rate test using extraction Well VW-1B with observation Wells VW-2A, VW-2B, VW-3A, and VW-3B was conducted on September 27, 2005. The test results are presented below and illustrated on Chart 3.

CONSTANT RATE TEST USING WELL VW-1B		
Observation Well	Distance from Extraction Well (feet)	Vacuum Response (inches water)
VW-2A	21	+0.03
VW-2B	22	+3.10
VW-3A	23	+0.04
VW-3B	25	+2.56

A constant-flow-rate test using extraction Well VW-1C with observation Wells VW-2B, VW-2C, VW-3B, and VW-3C was conducted on September 27, 2005. The test results are presented below and illustrated on Chart 4.

CONSTANT RATE TEST USING WELL VW-1C		
Observation Well	Distance from Closest Extraction Well (feet)	Vacuum Response (inches water)
VW-2B	22	+1.54
VW-2C	22	+2.30
VW-3B	25	+1.38
VW-3C	25	+2.20

A constant-flow-rate test using extraction Well MW-1A with observation Wells VW-1C, VW-2C, MW-2, and MW-3A was conducted on September 27, 2005. The test results are presented below and illustrated on Chart 5.

CONSTANT RATE TEST USING WELL MW-1A		
Observation Well	Distance from Closest Extraction Well (feet)	Vacuum Response (inches water)
VW-1C	4	+0.74
VW-2C	25	+0.40
MW-2	36	+2.39
MW-3A	36	+6.04

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### *5.1.1.2 Effective Radius of Influence*

The effective radius of influence (ERI) is a complex function of subsurface geology, applied vacuum and well construction, and is defined herein as the distance at which a pressure drawdown of 0.10 inch H<sub>2</sub>O is expected to prevail, resulting in air flow through the subsurface.

#### 'A Zone' (20-40 fbg)

During constant rate extraction from Well VW-1A, stabilized vacuum responses were recorded in Wells VW-2A, VW-2B, VW-3A, and VW-3B. Chart 2 presents the vacuum responses for 'A Zone' wells versus distance from Well VW-1A. Based on the point where a linear best-fit to the data crosses the 0.10 inch H<sub>2</sub>O vacuum line, the ERI for Well VW-1A appears to be approximately 36 feet. In order to obtain a meaningful ERI for the 'A Zone,' observation data from 'B Zone' wells were not included in the calculation.

#### 'B Zone' (45-65 fbg)

During constant rate extraction from Well VW-1B, stabilized vacuum responses were recorded in Wells VW-2A, VW-2B, VW-3A, and VW-3B. Chart 3 presents the vacuum responses for 'B Zone' wells versus distance from Well VW-1B. Based on the point where a linear best-fit to the data for Wells VW-2B and VW-3B crosses the 0.10 inch H<sub>2</sub>O vacuum line, the ERI appears to be approximately 70 feet. In order to obtain a meaningful ERI for the 'B Zone,' observation data from 'C Zone' wells were not included in the calculation.

#### 'C Zone' (70-90 fbg)

During constant rate extraction from Well VW-1C, stabilized vacuum responses were recorded in Wells VW-2B, VW-2C, VW-3B, and VW-3C. Chart 4 presents the vacuum responses for 'C Zone' wells versus distance from Well VW-1C. Based on the point where a linear best-fit to the data for Wells VW-2C and VW-3C crosses the 0.10 inch H<sub>2</sub>O vacuum line, the ERI appears to be approximately 68 feet. In order to obtain a meaningful ERI for the 'C Zone,' observation data from 'D Zone' wells were not included in the calculation.

#### 'D Zone' (90-100 fbg)

During constant rate extraction from Well MW-1A, stabilized vacuum responses were recorded in Wells VW-1C, VW-2C, MW-2, and MW-3A. Chart 5 presents the vacuum responses for 'D Zone' wells versus distance from Well MW-1A. Based on the point where a linear best-fit to the data crosses the 0.10 inch H<sub>2</sub>O vacuum line, the ERI appears to be approximately 63 feet.

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### 5.1.2 Vapor Extraction Activities

The VES unit operated a total of 742.5 hours during the period from September 27 through October 27, 2005. A total of approximately 96 pounds of hydrocarbons was removed from the subsurface during vapor extraction activities.

A comparison of influent hydrocarbon vapor concentrations measured in the field during VES operations indicates a significant decrease in vapor concentrations during operation of the VES. Refer to Appendix F for graphs of well influent concentrations during VES operations.

A comparison of vapor samples collected from the wells at VES startup versus vapor samples collected during system operation and at VES shut down indicate significant decreases in vapor sample concentrations. A summary of the results of laboratory analysis of vapor samples collected from the wells during VES operations is presented below:

- A maximum initial TPH-G concentration of 1,200 ppmv was detected in the vapor sample collected from Well VW-2B on September 27, 2005. A maximum final TPH-G concentration of 88 ppmv was detected in the vapor sample collected from Well VW-1B on October 27, 2005.
- A maximum initial benzene concentration of 6.7 ppmv was detected in the vapor sample collected from Well VW-2B on September 27, 2005. A maximum final benzene concentration of 0.39 ppmv was detected in the vapor sample collected from Well VW-3A on September 28, 2005.
- A maximum initial MTBE concentration of 5.6 ppmv was detected in the vapor sample collected from Well VW-2C on October 19, 2005. A maximum final MTBE concentration of 4.3 ppmv was detected in the vapor sample collected from Well VW-2C on October 20, 2005.

### 5.1.3 Vapor Rebound Testing

The VES unit operated a total of 36.5 hours during vapor rebound testing from November 14 through 15, 2005. A total of approximately 2 pounds of hydrocarbons was removed from the subsurface during vapor rebound testing.

A comparison of influent hydrocarbon vapor concentrations measured in the field during vapor rebound testing activities indicates a further decrease in vapor concentrations present in the

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subsurface beneath the site. Refer to Appendix F for graphs of well influent concentrations during vapor rebound testing activities.

A comparison of vapor samples collected from the wells at vapor rebound testing startup versus vapor samples collected during vapor rebound testing and at vapor rebound testing shutdown indicate decreases in vapor sample concentrations. A summary of the results of laboratory analysis of vapor samples collected from the wells during vapor rebound testing is presented below:

- A maximum initial TPH-G concentration of 230 ppmv was detected in the vapor sample collected from Vapor Extraction Well VW-3B on November 14, 2005. Maximum final TPH-G concentrations of 170 ppmv were detected in vapor samples collected from Wells VW-2B and VW-3B on November 15, 2005.
- A maximum initial benzene concentration of 0.26 ppmv was detected in the vapor sample collected from Well VW-2B on November 14, 2005. A maximum final benzene concentration of 0.13 ppmv was detected in the vapor sample collected from Well VW-2B on November 15, 2005.
- A maximum initial MTBE concentration of 0.74 ppmv was detected in the vapor sample collected from Well VW-2B on November 14, 2005. A maximum final MTBE concentration of 0.70 ppmv was detected in the vapor sample collected from Well VW-2B on November 15, 2005.

## **5.2 CONFIRMATION SOIL SAMPLING**

### **5.2.1 Soil Types and Groundwater**

Soil types encountered during this investigation generally consisted of sand and silty sand with interbedded layers of silt (including sandy silt) from grade to approximately 101.5 fbg. Groundwater was observed at approximately 100 fbg in Confirmation Boring CB-3 during confirmation soil sampling activities; groundwater was not observed during drilling of Confirmation Borings CB-1, CB-2, CB-2A, or CB-4 through CB-6.

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### 5.2.2 Results of Laboratory Analysis of Soil Samples

A summary of the results of laboratory analysis of confirmation soil samples is presented below and shown on Figure 3:

#### *Confirmation Boring CB-1*

- Detectable concentrations of TPPH ranging from 0.20 mg/kg to 43 mg/kg were present in soil samples collected from Confirmation Boring CB-1 at approximately 15.5, 46.5, 51.5, 70.5, and 81.5 to 100.5 fbg. A maximum TPPH concentration of 43 mg/kg was detected in the soil sample collected from Confirmation Boring CB-1 at approximately 46.5 fbg.
- A detectable benzene concentration of 0.0098 mg/kg was present in the soil sample collected from Confirmation Boring CB-1 at approximately 46.5 fbg.
- Detectable concentrations of MTBE ranging from 0.0093 to 0.26 mg/kg were present in soil samples collected from Confirmation Boring CB-1 from approximately 56.5 and 70.5 to 100.5 fbg. A maximum MTBE concentration of 0.26 mg/kg was detected in the soil sample collected from Confirmation Boring CB-1 at approximately 91.5 fbg.

#### *Confirmation Boring CB-2*

- Detectable concentrations of TPPH ranging from 0.19 mg/kg to 0.53 mg/kg were present in soil samples collected from Confirmation Boring CB-2 at approximately 25.5 to 40.5 fbg. A maximum TPPH concentration of 0.53 mg/kg was detected in the soil sample collected from Confirmation Boring CB-2 at approximately 25.5 fbg.
- No detectable concentrations of BTEX, MTBE, DIPE, ETBE, TAME, TBA or ethanol were present in soil samples collected from Confirmation Boring CB-2.

#### *Confirmation Boring CB-2A*

- Detectable concentrations of TPPH ranging from 0.19 mg/kg to 7.0 mg/kg were present in soil samples collected from Confirmation Boring CB-2A at approximately 56.0, and 76.5 to 101.0 fbg. A maximum TPPH concentration of

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7.0 mg/kg was detected in the soil sample collected from Confirmation Boring CB-2A at approximately 56.0 fbg.

- Detectable concentrations of MTBE ranging from 0.036 to 0.64 mg/kg were present in soil samples collected from Confirmation Boring CB-2A from approximately 71.5 to 101.0 fbg. A maximum MTBE concentration of 0.64 mg/kg was detected in the soil sample collected from Confirmation Boring CB-2A at approximately 86.5 fbg.
- A detectable TBA concentration of 0.61 mg/kg was present in the soil sample collected from Confirmation Boring CB-2A at approximately 56.0 fbg.
- No detectable concentrations of BTEX, DIPE, ETBE, TAME, or ethanol were present in soil samples collected from Confirmation Boring CB-2A.

### *Confirmation Boring CB-3*

- Detectable concentrations of TPPH ranging from 0.19 mg/kg to 0.90 mg/kg were present in soil samples collected from Confirmation Boring CB-3 at approximately 41.0, 51.0, 71.0, and 81.5 to 101.5 fbg. A maximum TPPH concentration of 0.90 mg/kg was detected in the soil sample collected from Confirmation Boring CB-3 at approximately 96.5 fbg.
- Detectable concentrations of MTBE ranging from 0.048 to 0.70 mg/kg were present in soil samples collected from Confirmation Boring CB-3 from approximately 76.5 to 101.5 fbg. A maximum MTBE concentration of 0.70 mg/kg was detected in the soil sample collected from Confirmation Boring CB-3 at approximately 96.5 fbg.
- No detectable concentrations of benzene, DIPE, ETBE, TAME, TBA or ethanol were present in soil samples collected Confirmation Boring CB-3.

### *Confirmation Boring CB-4*

- Detectable concentrations of TPPH ranging from 0.21 mg/kg to 6,900 mg/kg were present in soil samples collected from Confirmation Boring CB-4 at approximately 31.5 to 61.0, and 71.0 to 100.5 fbg. A maximum TPPH concentration of 6,900 mg/kg was detected in the soil sample collected from Confirmation Boring CB-4 at approximately 50.5 fbg.

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- A detectable benzene concentration of 14 mg/kg was present in the soil sample collected from Confirmation Boring CB-4 at approximately 50.5 fbg.
- Detectable concentrations of MTBE ranging from 0.0082 to 1.3 mg/kg were present in soil samples collected from Confirmation Boring CB-4 at approximately 50.5, 56.0, 66.5, 81.0, and 91.5 to 100.5 fbg. A maximum MTBE concentration of 1.3 mg/kg was detected in the soil sample collected from Confirmation Boring CB-4 at approximately 50.5 fbg.

### *Confirmation Boring CB-5*

- Detectable concentrations of TPPH ranging from 0.20 mg/kg to 20 mg/kg were present in soil samples collected from Confirmation Boring CB-5 at approximately 10.5, 36.0 to 75.5, 91.0, and 96.5 fbg. A maximum TPPH concentration of 20 mg/kg was detected in the soil sample collected from Confirmation Boring CB-5 at approximately 10.5 fbg.
- Detectable concentrations of MTBE ranging from 0.0049 to 0.42 mg/kg were present in soil samples collected from Confirmation Boring CB-5 from approximately 85.5 to 101.0 fbg. A maximum MTBE concentration of 0.42 mg/kg was detected in the soil sample collected from Confirmation Boring CB-5 at approximately 96.5 fbg.
- No detectable concentrations of benzene, DIPE, ETBE, TAME, TBA or ethanol were present in soil samples collected Confirmation Boring CB-5.

### *Confirmation Boring CB-6*

- Detectable concentrations of TPPH ranging from 0.18 mg/kg to 9.6 mg/kg were present in soil samples collected from Confirmation Boring CB-6 at approximately 20.5, 45.5 to 55.5, 65.5, 70.5, and 81.0 to 101.0 fbg. A maximum TPPH concentration of 9.6 mg/kg was detected in the soil sample collected from Confirmation Boring CB-6 at approximately 55.5 fbg.
- Detectable benzene concentrations of 0.0044 and 0.0049 were present in soil samples collected from soil samples collected from Confirmation Boring CB-6 at approximately 45.5 and 55.5 fbg, respectively.



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- Detectable concentrations of MTBE ranging from 0.087 to 0.41 mg/kg were present in soil samples collected from Confirmation Boring CB-6 at approximately 55.5, and 76.0 to 101.0 fbg. A maximum MTBE concentration of 0.41 mg/kg was detected in the soil sample collected from Confirmation Boring CB-6 at approximately 96.0 fbg.
- No detectable concentrations of DIPE, ETBE, TAME, TBA or ethanol were present in soil samples collected Confirmation Boring CB-6.

## **6.0 CONCLUSIONS**

Based on the results of this and previous investigations, TRC concludes the following:

- Vapor extraction activities were conducted at the site for a total of approximately 779 hours. A total of approximately 98 pounds of hydrocarbons were recovered from the subsurface.
- Low influent vapor concentrations observed during vapor extraction activities suggest that a limited amount of hydrocarbon-affected soil is present in the subsurface.
- A comparison of hydrocarbon vapor concentrations observed during initial VES operations versus hydrocarbon concentrations observed during vapor rebound testing activities indicates an overall reduction in influent concentrations of TPH-G, benzene, and MTBE. A comparison of hydrocarbon vapor concentrations observed at the end VES operations versus hydrocarbon concentrations observed during vapor rebound testing activities does not indicate an increase in influent concentrations of TPH-G, benzene, and MTBE. Therefore, it appears that vapor extraction activities have effectively removed the extractable hydrocarbon mass from the subsurface.
- The results of laboratory analysis of vapor samples collected during vapor extraction activities indicate that extracted hydrocarbon vapors consisted of predominately heavier end hydrocarbons (ethylbenzene and total xylenes). Therefore, it appears that the hydrocarbons present beneath the site are the result of an older release that has degraded through natural attenuation.

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- The results of confirmation boring activities indicate a reduction in hydrocarbon-affected soil present in the vicinity of the former gasoline USTs. However, it appears that hydrocarbon-affected soil is still present in the vicinity of Well VW-1B/C (see Figures 4 and 5).
- Based on the results of vapor extraction tests conducted at the site, it appears that extraction from Wells VW-1A/B/C, VW-2A/B/C, VW-3A/B/C, MW-1A and MW-3A resulted in an ERI that was sufficient to effectively remediate adsorbed-phase hydrocarbons present in the vicinity of the former gasoline USTs (see Figures 6 and 7).
- Based on the ERI calculated from vapor extraction testing activities and the low influent concentrations observed from Well VW-1B/C during rebound testing activities, it appears that the hydrocarbons detected in soil samples collected from Confirmation Boring CB-4 are heavy end hydrocarbons that have adsorbed to the soil matrix and are not recoverable through vapor extraction.
- Based on the low influent hydrocarbon concentrations observed during vapor extraction activities and rebound testing activities, and results of confirmation sampling activities, it appears that only residual hydrocarbon-affected soil is present in the area of the former gasoline USTs and no further remediation activities are warranted.

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The activities summarized in this report have been conducted in accordance with current practice and the standard of care exercised by geologists and engineers performing similar tasks in this area. No warranty, expressed or implied, is made regarding the conclusions and professional opinions presented in this report. The findings and conclusions are based solely upon an analysis of the observed conditions. If actual conditions differ from those described in this report, our office should be notified.

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**TABLES AND CHARTS**

Table 1  
RESULTS OF LABORATORY ANALYSIS OF VAPOR SAMPLES  
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Sample Number	Sample Date	Length of Extraction* (hours)	Sample Time (24 hour)	Ethyl-									
				TPH-G (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Total Xylenes (ppmv)	MTBE (ppmv)	DIPE (ppmv)	ETBE (ppmv)	TAME (ppmv)	TBA (ppmv)	
													EPA Method TO-14A
VW-1A-Start	9/27/2005	0.5	12:15	200	0.73	7.8	3.0	36	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-1A	10/1/2005	95.0	10:45	230	ND<0.20	4.0	3.1	45	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<1.0
VW-1A	10/3/2005	143.3	11:00	200	ND<0.10	1.6	1.8	38	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-1A	10/7/2005	239.8	11:30	48	ND<0.10	0.65	0.62	13	0.11	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-1A	10/18/2005	503.3	11:00	34	ND<0.050	0.34	0.44	11	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.25
VW-2A-Start	9/27/2005	0.5	12:15	82	0.37	5.9	2.4	15	0.065	ND<0.050	ND<0.050	ND<0.050	ND<0.25
VW-2A	10/1/2005	95.0	10:45	150	ND<0.10	7.1	4.5	32	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-2A	10/3/2005	143.3	11:00	140	ND<0.10	8.6	6.2	41	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-2A	10/7/2005	239.8	11:30	44	ND<0.10	2.4	1.9	14	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-2A	10/18/2005	503.3	11:00	29	ND<0.050	1.7	1.6	11	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.25
VW-3A-Start	9/27/2005	0.5	12:15	14	0.044	0.56	0.27	2.4	0.056	ND<0.067	ND<0.067	ND<0.067	ND<0.033
VW-3A-End	9/28/2005	24.0	11:45	92	0.39	6.1	2.8	21	ND<0.067	ND<0.067	ND<0.067	ND<0.067	ND<0.33
VW-1B-Start	9/27/2005	0.0	14:45	720	3.7	99	18	130	1.8	ND<1.0	ND<1.0	ND<1.0	ND<5.0
VW-1B	10/1/2005	92.0	10:45	320	0.28	24	11	74	1.4	ND<0.20	ND<0.20	ND<0.20	ND<1.0
VW-1B	10/3/2005	140.3	11:00	300	ND<0.20	18	10	75	1.2	ND<0.20	ND<0.20	ND<0.20	ND<1.0
VW-1B	10/7/2005	236.8	11:30	61	ND<0.10	3.7	2.0	16	0.26	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-1B	10/27/2005	715.3	10:00	88	0.059	4.5	2.0	15	0.55	ND<0.20	ND<0.20	ND<0.20	0.023
VW-2B-Start	9/27/2005	0.0	14:45	1,200	6.7	120	31	180	1.2	ND<1.0	ND<1.0	ND<1.0	ND<5.0
VW-2B	10/1/2005	92.0	10:45	270	0.40	19	7.5	47	2.8	ND<0.20	ND<0.20	ND<0.20	ND<1.0
VW-2B	10/3/2005	140.3	11:00	240	0.24	16	6.4	41	3.1	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-2B	10/7/2005	236.8	11:30	34	ND<0.10	2.9	1.1	7.5	0.64	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-2B	10/27/2005	715.3	10:00	77	0.071	5.2	2.1	14	1.1	ND<0.20	ND<0.20	ND<0.20	0.018
VW-3B-Start	9/29/2005	24.0	12:45	130	0.42	8.2	3.5	26	0.61	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-3B	10/1/2005	70.0	10:45	100	0.10	3.4	2.8	21	1.2	ND<0.067	ND<0.067	ND<0.067	ND<0.33
VW-3B	10/3/2005	118.3	11:00	68	ND<0.040	1.7	1.9	14	1.3	ND<0.040	ND<0.040	ND<0.040	ND<0.20
VW-3B	10/7/2005	214.8	11:30	32	0.032	1.3	0.80	5.9	0.33	ND<0.020	ND<0.020	ND<0.020	ND<0.10
VW-3B	10/18/2005	478.3	11:00	15	ND<0.020	0.43	0.30	2.7	0.58	ND<0.020	ND<0.020	ND<0.020	ND<0.10
VW-3B	10/27/2005	693.3	10:00	69	0.016	2.5	2.2	15	0.84	ND<0.020	ND<0.020	ND<0.020	0.014
VW-1C	10/19/2005	0.0	10:30	7.5	ND<0.12	0.15	0.085	1.0	2.1	ND<0.012	ND<0.012	ND<0.012	ND<0.062
VW-1C	10/20/2005	0.5	11:00	9.8	ND<0.10	0.17	0.14	1.5	1.4	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-2C	10/19/2005	0.0	10:30	7.5	ND<0.040	0.18	0.068	0.55	5.6	ND<0.040	ND<0.040	ND<0.040	ND<0.20
VW-2C	10/20/2005	0.5	11:00	7.4	ND<0.025	0.11	0.076	0.71	4.3	ND<0.025	ND<0.025	ND<0.025	ND<0.12
VW-3C	10/19/2005	0.0	10:30	4.3	ND<0.033	ND<0.083	ND<0.033	0.15	4.8	ND<0.033	ND<0.033	ND<0.033	ND<0.17
VW-3C	10/20/2005	0.5	11:00	5.0	ND<0.020	0.062	0.043	0.44	3.6	ND<0.020	ND<0.020	ND<0.020	ND<0.10

**Table 1**  
**RESULTS OF LABORATORY ANALYSIS OF VAPOR SAMPLES**  
**Former 76 Station 0353**

Sample Number	Sample Date	Length of Extraction* (hours)	Sample Time (24 hour)	Ethyl- benzene Total Xylenes							EPA Method TO-14A		
				TPH-G (ppmv)	Benzene (ppmv)	Toluene (ppmv)	benzene (ppmv)	Total Xylenes (ppmv)	MTBE (ppmv)	DIPE (ppmv)	ETBE (ppmv)	TAME (ppmv)	TBA (ppmv)
				EPA TO-3									
MW-1A	10/20/2005	0.0	11:30	7.6	ND<0.0040	0.20	0.15	1.4	0.11	ND<0.0040	ND<0.0040	ND<0.0040	ND<0.020
MW-1A	10/21/2005	20.5	8:00	8.4	ND<0.0050	0.30	0.22	2.0	0.52	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.25
MW-3A	10/20/2005	0.0	11:30	3.4	ND<0.0020	0.066	0.054	0.51	0.066	ND<0.0020	ND<0.0020	ND<0.0020	0.12
MW-3A	10/21/2005	20.5	8:00	3.8	ND<0.0020	0.081	0.072	0.69	0.18	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.010
System Influent	10/1/2005	95.0	10:45	210	0.16	11	5.4	40	1.2	ND<0.10	ND<0.10	ND<0.10	ND<0.50
System Influent	10/3/2005	143.3	11:00	170	ND<0.10	9.4	5.4	42	1.0	ND<0.10	ND<0.10	ND<0.10	ND<0.50
System Influent	10/7/2005	239.8	11:30	76	ND<0.10	4.8	2.7	22	0.73	ND<0.10	ND<0.10	ND<0.10	ND<0.50
Rebound Testing													
VW-1A	11/15/2005	0.5	9:30	120	ND<0.10	3.0	2.1	15.8	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-1A	11/15/2005	6.0	15:00	100	0.072	2.6	2.1	16.2	ND<0.017	ND<0.013	ND<0.0067	ND<0.013	ND<0.067
VW-1A	11/15/2005	12	21:00	92	ND<0.027	2.1	2.0	17.9	ND<0.017	ND<0.013	ND<0.0067	ND<0.013	ND<0.067
VW-2A	11/15/2005	0.5	9:30	110	ND<0.067	2.4	1.7	14.3	ND<0.067	ND<0.067	ND<0.067	ND<0.067	ND<0.33
VW-2A	11/15/2005	6.0	15:00	110	ND<0.027	2.3	2.0	18.0	ND<0.017	ND<0.013	ND<0.0067	ND<0.013	ND<0.067
VW-2A	11/15/2005	12.0	21:00	96	ND<0.027	2.1	1.8	18.2	ND<0.067	ND<0.067	ND<0.0067	ND<0.013	ND<0.067
VW-3A	11/15/2005	0.5	9:30	100	ND<0.067	2.6	1.9	14.2	ND<0.067	ND<0.067	ND<0.067	ND<0.067	ND<0.33
VW-3A	11/15/2005	6.0	15:00	97	ND<0.027	2.1	1.9	16.3	ND<0.067	ND<0.067	ND<0.067	ND<0.067	ND<0.33
VW-3A	11/15/2005	12.0	21:00	92	ND<0.027	1.6	1.8	17.0	ND<0.017	ND<0.013	ND<0.0067	ND<0.013	ND<0.067
VW-1B	11/14/2005	0.5	9:00	190	0.16	5.1	2.0	16.4	0.31	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-1B	11/14/2005	11.5	20:00	150	0.16	7.3	3.0	21.1	0.48	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-1B	11/15/2005	24.0	8:30	160	0.12	6.6	3.2	22.3	0.52	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-2B	11/14/2005	0.5	9:00	220	0.26	7.3	2.4	19.3	0.74	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-2B	11/14/2005	11.5	20:00	**	**	**	**	**	**	**	**	**	**
VW-2B	11/15/2005	24.0	8:30	170	0.13	6.9	3.2	22.4	0.70	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-3B	11/14/2005	0.5	9:00	230	0.25	ND<0.25	2.9	19.3	0.57	ND<0.10	ND<0.10	ND<0.10	ND<0.50
VW-3B	11/14/2005	11.5	20:00	**	**	**	**	**	**	**	**	**	**
VW-3B	11/15/2005	24.0	8:30	170	0.10	6.4	2.9	19.8	0.69	ND<0.10	ND<0.10	ND<0.10	ND<0.50

Notes:  
 TPH-G = total petroleum hydrocarbons as gasoline  
 \* = length of extraction (from start) from well prior to sample collection  
 MTBE = methyl tertiary butyl ether  
 DIPE = di-isopropyl ether  
 ETBE = ethyl tertiary-butyl ether  
 TAME = tertiary-amyl methyl ether  
 TBA = tertiary butyl alcohol  
 ND = non detect above the Method Detection Limit (MDL)  
 ppmv = parts per million by volume  
 \*\* = sample damaged during transit

Table 2

**RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES-CONFIRMATION BORINGS**  
Former 76 Station 0353

Boring Number	Sample Date	Depth (ft)	TPPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)
EPA Method 8260B													
CB-1	12/5/2005	6.5	ND<0.12	ND<0.00058	ND<0.0010	ND<0.00094	ND<0.0039	ND<0.00066	ND<0.00041	ND<0.00013	ND<0.00020	ND<0.023	ND<0.27
	12/5/2005	15.5	<b>0.20</b>	ND<0.00068	ND<0.0012	ND<0.0011	ND<0.0046	ND<0.00077	ND<0.00047	ND<0.00015	ND<0.00024	ND<0.027	ND<0.31
	12/5/2005	21.0	ND<0.16	ND<0.00076	ND<0.0013	ND<0.0012	ND<0.0051	ND<0.00087	ND<0.00053	ND<0.00017	ND<0.00027	ND<0.031	ND<0.35
	12/5/2005	26.5	ND<0.13	ND<0.00059	ND<0.0010	ND<0.00095	ND<0.0040	ND<0.00067	ND<0.00041	ND<0.00013	ND<0.00021	ND<0.024	ND<0.27
	12/5/2005	31.0	ND<0.13	ND<0.00062	ND<0.0011	ND<0.00098	ND<0.0041	ND<0.00070	ND<0.00043	ND<0.00014	ND<0.00021	ND<0.025	ND<0.28
	12/5/2005	35.5	ND<0.13	ND<0.00063	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00071	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.025	ND<0.29
	12/5/2005	41.0	ND<0.14	ND<0.00065	<b>0.0012<sup>J</sup></b>	ND<0.0010	ND<0.0044	ND<0.00074	ND<0.00045	ND<0.00015	ND<0.00023	ND<0.026	ND<0.30
	12/5/2005	46.5	<b>43</b>	<b>0.0098</b>	<b>2.0</b>	<b>1.3</b>	<b>9.3</b>	ND<0.00070	ND<0.00043	ND<0.00014	ND<0.00021	ND<0.025	ND<0.28
	12/5/2005	51.5	<b>0.37</b>	ND<0.00073	<b>0.0090</b>	<b>0.0039<sup>J</sup></b>	<b>0.054</b>	<b>0.0017<sup>J</sup></b>	ND<0.00050	ND<0.00016	ND<0.00025	ND<0.029	ND<0.33
	12/5/2005	56.5	ND<0.13	ND<0.00060	ND<0.0010	ND<0.00096	ND<0.0040	<b>0.019</b>	ND<0.00042	ND<0.00014	ND<0.00021	ND<0.024	ND<0.27
	12/5/2005	61.0	ND<0.17	ND<0.00081	ND<0.0014	ND<0.0013	ND<0.0054	<b>0.00096<sup>J</sup></b>	ND<0.00056	ND<0.00018	ND<0.00028	ND<0.032	ND<0.37
	12/5/2005	65.5	<b>0.16<sup>J</sup></b>	ND<0.00069	ND<0.0012	ND<0.0011	ND<0.0046	<b>0.0016<sup>J</sup></b>	ND<0.00048	ND<0.00016	ND<0.00024	ND<0.028	ND<0.31
	12/5/2005	70.5	<b>14</b>	ND<0.00061	<b>0.021</b>	<b>0.051</b>	<b>0.38</b>	<b>0.0040</b>	ND<0.00042	ND<0.00014	ND<0.00021	ND<0.024	ND<0.28
	12/5/2005	76.0	ND<0.14	ND<0.00066	ND<0.0011	ND<0.0011	ND<0.0044	<b>0.0093</b>	ND<0.00046	ND<0.00015	ND<0.00023	ND<0.026	ND<0.30
CB-2	12/5/2005	81.5	<b>0.25</b>	ND<0.00062	ND<0.0011	ND<0.0010	ND<0.0042	<b>0.11</b>	ND<0.00043	ND<0.00014	ND<0.00022	ND<0.025	ND<0.28
	12/5/2005	86.5	<b>0.73</b>	<b>0.0014<sup>J</sup></b>	<b>0.0011<sup>J</sup></b>	ND<0.00098	ND<0.0041	<b>0.18</b>	ND<0.00043	ND<0.00014	ND<0.00021	ND<0.025	ND<0.28
	12/5/2005	91.5	<b>13</b>	ND<0.014	ND<0.025	ND<0.023	ND<0.096	<b>0.26</b>	ND<0.010	ND<0.0033	ND<0.0050	ND<0.58	<b>18<sup>J</sup></b>
	12/5/2005	96.5	<b>0.27</b>	ND<0.00060	ND<0.0010	ND<0.00096	ND<0.0040	<b>0.18</b>	ND<0.00042	ND<0.00014	ND<0.00021	ND<0.024	ND<0.27
	12/5/2005	100.5	<b>0.44</b>	ND<0.00062	ND<0.0011	<b>0.0040<sup>J</sup></b>	<b>0.034</b>	<b>0.011</b>	ND<0.00043	ND<0.00014	ND<0.00021	ND<0.025	ND<0.28
	12/5/2005	5.5	ND<0.13	ND<0.00059	ND<0.0010	ND<0.00095	ND<0.0040	ND<0.00067	ND<0.00041	ND<0.00013	ND<0.00021	ND<0.024	ND<0.27
	12/5/2005	10.5	ND<0.13	ND<0.00061	ND<0.0011	ND<0.00097	ND<0.0040	ND<0.00069	ND<0.00042	ND<0.00014	ND<0.00021	ND<0.024	ND<0.28
	12/5/2005	15.5	ND<0.13	ND<0.00063	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00071	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.025	ND<0.29
	12/5/2005	20.5	ND<0.13	ND<0.00063	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00071	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.025	ND<0.29
	12/5/2005	25.5	<b>0.53</b>	ND<0.00063	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00071	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.025	ND<0.29
CB-2A	12/5/2005	30.5	<b>0.25</b>	ND<0.00062	ND<0.0011	ND<0.00098	ND<0.0041	ND<0.00070	ND<0.00043	ND<0.00014	ND<0.00021	ND<0.025	ND<0.28
	12/5/2005	35.5	<b>0.32</b>	ND<0.00062	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00071	ND<0.00043	ND<0.00014	ND<0.00022	ND<0.025	ND<0.28
	12/5/2005	40.5	<b>0.19</b>	ND<0.00062	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00071	ND<0.00043	ND<0.00014	ND<0.00022	ND<0.025	ND<0.28
	12/7/2005	46.0	ND<0.13	ND<0.00062	ND<0.0011	ND<0.00098	ND<0.0041	ND<0.00070	ND<0.00043	ND<0.00014	ND<0.00021	ND<0.025	ND<0.28
	12/7/2005	51.0	ND<0.15	ND<0.00071	ND<0.0012	ND<0.0011	ND<0.0048	ND<0.00081	ND<0.00049	ND<0.00016	ND<0.00025	ND<0.028	ND<0.32
	12/7/2005	56.0	<b>7.0</b>	ND<0.015	ND<0.025	ND<0.023	ND<0.097	ND<0.016	ND<0.010	ND<0.0033	ND<0.0050	<b>0.61</b>	ND<6.6
	12/7/2005	60.5	ND<0.16	ND<0.00073	ND<0.0013	ND<0.0012	ND<0.0048	ND<0.00082	ND<0.00050	ND<0.00016	ND<0.00025	ND<0.029	ND<0.33



Table 2

**RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES-CONFIRMATION BORINGS**  
Former 76 Station 0353

Boring Number	Sample Date	Depth (ft)	TPPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	BIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)
EPA Method 8260B													
CB-2A (cont'd)	12/7/2005	65.5	ND<0.14	ND<0.00067	ND<0.0012	ND<0.0011	ND<0.0044	0.0023 <sup>J</sup>	ND<0.00046	ND<0.00015	ND<0.00023	ND<0.027	ND<0.30
	12/7/2005	71.5	ND<0.15	ND<0.00070	ND<0.0012	ND<0.0011	ND<0.0047	0.036	ND<0.00049	ND<0.00016	ND<0.00024	ND<0.028	ND<0.32
	12/7/2005	76.5	0.42	ND<0.00064	ND<0.0011	ND<0.0010	ND<0.0043	0.38	ND<0.00045	ND<0.00015	ND<0.00022	ND<0.026	ND<0.29
	12/7/2005	81.5	0.40	ND<0.00070	ND<0.0012	ND<0.0011	ND<0.0046	0.34	ND<0.00048	ND<0.00016	ND<0.00024	ND<0.028	ND<0.32
	12/7/2005	86.5	0.72	ND<0.00057	ND<0.00099	ND<0.00091	ND<0.0038	0.64	ND<0.00040	ND<0.00013	ND<0.00020	ND<0.023	ND<0.26
	12/7/2005	91.5	0.21	ND<0.00061	ND<0.0011	ND<0.00097	ND<0.0040	0.12	ND<0.00042	ND<0.00014	ND<0.00021	ND<0.024	ND<0.28
	12/7/2005	96.0	0.31	ND<0.00056	ND<0.00098	ND<0.00090	ND<0.0038	0.28	ND<0.00039	ND<0.00013	ND<0.00020	ND<0.022	ND<0.26
	12/7/2005	101.0	0.19	ND<0.00056	ND<0.00098	ND<0.00090	ND<0.0038	0.13	ND<0.00039	ND<0.00013	ND<0.00020	ND<0.022	ND<0.26
CB-3	12/5/2005	6.0	ND<0.13	ND<0.00062	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00071	ND<0.00043	ND<0.00014	ND<0.00022	ND<0.025	ND<0.28
	12/5/2005	11.0	ND<0.18	ND<0.00085	ND<0.0015	ND<0.0014	ND<0.0056	ND<0.00096	ND<0.00059	ND<0.00019	ND<0.00029	ND<0.034	ND<0.38
	12/5/2005	16.0	ND<0.12	ND<0.00057	ND<0.00099	ND<0.00091	ND<0.0038	ND<0.00065	ND<0.00040	ND<0.00013	ND<0.00020	ND<0.023	ND<0.26
	12/6/2005	20.5	ND<0.15	ND<0.00068	ND<0.0012	ND<0.0011	ND<0.0046	ND<0.00077	ND<0.00047	ND<0.00015	ND<0.00024	ND<0.027	ND<0.31
	12/6/2005	25.5	ND<0.32	ND<0.0015	ND<0.0026	ND<0.0024	ND<0.0098	ND<0.0017	ND<0.0010	ND<0.00033	ND<0.00051	ND<0.059	ND<0.67
	12/6/2005	30.5	ND<0.17	ND<0.00080	ND<0.0014	ND<0.0013	ND<0.0054	ND<0.00091	ND<0.00056	ND<0.00018	ND<0.00028	ND<0.032	ND<0.36
	12/6/2005	35.5	ND<0.13	ND<0.00062	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00071	ND<0.00043	ND<0.00014	ND<0.00022	ND<0.025	ND<0.28
	12/6/2005	41.0	0.19	ND<0.00067	ND<0.0012	ND<0.0011	ND<0.0045	ND<0.00076	ND<0.00046	ND<0.00015	ND<0.00023	ND<0.027	ND<0.30
	12/6/2005	46.0	ND<0.13	ND<0.00061	ND<0.0011	ND<0.00097	ND<0.0040	ND<0.00069	ND<0.00042	ND<0.00014	ND<0.00021	ND<0.024	ND<0.28
	12/6/2005	51.0	0.24	ND<0.00064	ND<0.0011	ND<0.0010	0.0055 <sup>J</sup>	ND<0.00072	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.026	ND<0.29
	12/6/2005	56.5	ND<0.14	ND<0.00065	0.0033 <sup>J</sup>	ND<0.0010	0.0058 <sup>J</sup>	0.0014 <sup>J</sup>	ND<0.00045	ND<0.00015	ND<0.00023	ND<0.026	ND<0.30
	12/6/2005	60.5	ND<0.16	ND<0.00073	ND<0.0013	ND<0.0012	ND<0.0048	ND<0.00082	ND<0.00050	ND<0.00016	ND<0.00025	ND<0.029	ND<0.33
	12/6/2005	65.5	ND<0.18	ND<0.00086	ND<0.0015	ND<0.0014	ND<0.0058	ND<0.00098	ND<0.00060	ND<0.00020	ND<0.00030	ND<0.034	ND<0.39
	12/6/2005	71.0	0.21	ND<0.00071	ND<0.0012	ND<0.0011	ND<0.0048	0.0022 <sup>J</sup>	ND<0.00049	ND<0.00016	ND<0.00025	ND<0.028	ND<0.32
	12/6/2005	76.5	0.18 <sup>J</sup>	ND<0.00071	ND<0.0012	ND<0.0011	ND<0.0048	0.024	ND<0.00049	ND<0.00016	ND<0.00025	ND<0.028	ND<0.32
	12/6/2005	81.5	0.21	ND<0.00075	ND<0.0013	ND<0.0012	ND<0.0050	0.11	ND<0.00052	ND<0.00017	ND<0.00026	ND<0.030	ND<0.34
CB-4	12/6/2005	85.5	0.21	ND<0.00074	ND<0.0013	ND<0.0012	ND<0.0050	0.048	ND<0.00051	ND<0.00017	ND<0.00026	ND<0.030	ND<0.34
	12/6/2005	91.5	0.76	ND<0.00058	ND<0.0010	ND<0.00094	ND<0.0039	0.65	ND<0.00041	ND<0.00013	ND<0.00020	ND<0.023	ND<0.27
	12/6/2005	96.5	0.90	ND<0.00061	ND<0.0011	ND<0.00097	ND<0.0040	0.70	ND<0.00042	ND<0.00014	ND<0.00021	ND<0.024	ND<0.28
	12/6/2005	101.5	0.29	ND<0.00062	ND<0.0011	ND<0.0010	ND<0.0042	0.18	ND<0.00043	ND<0.00014	ND<0.00022	ND<0.025	ND<0.28
	12/6/2005	5.5	0.15 <sup>J</sup>	ND<0.00064	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00072	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.026	ND<0.29
	12/6/2005	10.5	ND<0.14	ND<0.00064	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00072	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.026	ND<0.29
12/6/2005	16.0	ND<0.15	ND<0.00070	ND<0.0012	ND<0.0011	ND<0.0011	ND<0.0046	ND<0.00079	ND<0.00048	ND<0.00016	ND<0.00024	ND<0.028	ND<0.32
12/6/2005	21.0	ND<0.16	ND<0.00074	ND<0.0013	ND<0.0012	ND<0.0012	ND<0.0049	ND<0.00083	ND<0.00051	ND<0.00017	ND<0.00025	ND<0.029	ND<0.33

Table 2

**RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES-CONFIRMATION BORINGS**  
Former 76 Station 0353

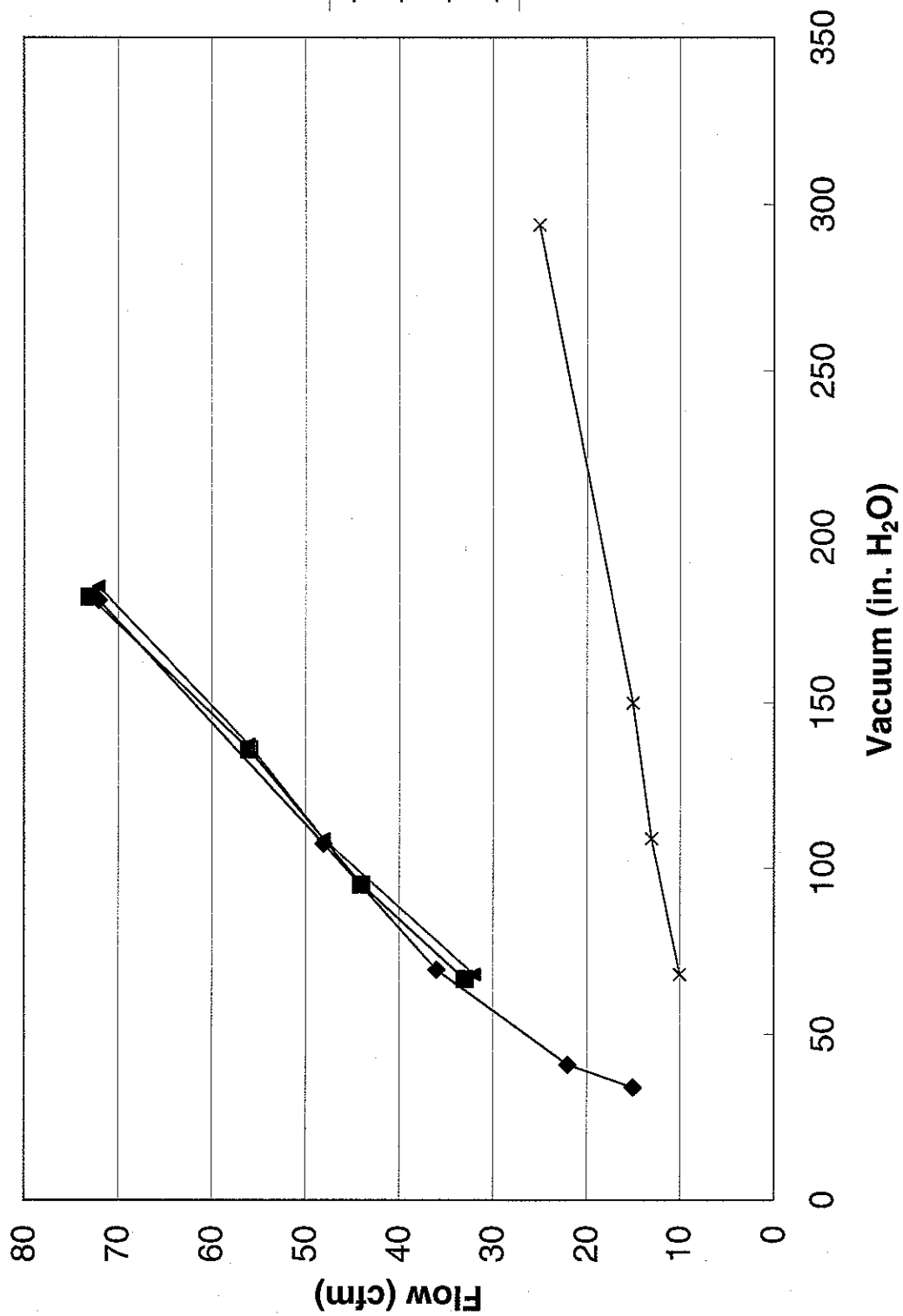
Boring Number	Sample Date	Depth (ft)	TPPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MIBC (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)
EPA Method 8260B													
CB-4 (cont'd)	12/6/2005	25.5	0.17 <sup>J</sup>	ND<0.00070	ND<0.0012	ND<0.0011	ND<0.0046	ND<0.00079	ND<0.00048	ND<0.00016	ND<0.00024	ND<0.028	ND<0.32
	12/6/2005	31.5	0.21	ND<0.00068	ND<0.0012	ND<0.0011	ND<0.0045	ND<0.00076	ND<0.00047	ND<0.00015	ND<0.00023	ND<0.027	ND<0.31
	12/6/2005	36.0	13	ND<0.016	ND<0.027	ND<0.025	0.28	ND<0.018	ND<0.011	ND<0.0035	ND<0.0054	ND<0.62	ND<7.0
	12/6/2005	41.5	3,300	ND<0.19	6.2	41	660	ND<0.21	ND<0.13	ND<0.042	ND<0.065	ND<7.5	ND<84
	12/6/2005	46.5	18	ND<0.016	3.9	0.93	5.6	ND<0.018	ND<0.011	ND<0.0036	ND<0.0054	0.96 <sup>J</sup>	ND<7.1
	12/6/2005	50.5	6,900	14	520	210	1,200	1.3	ND<0.11	ND<0.036	ND<0.056	ND<6.4	ND<73
	12/6/2005	56.0	20	0.018 <sup>J</sup>	0.35	0.30	2.1	0.13	ND<0.012	ND<0.0038	ND<0.0058	ND<0.67	ND<7.6
	12/6/2005	61.0	0.29	0.00092 <sup>J</sup>	0.014	0.0029 <sup>J</sup>	0.028	0.0037 <sup>J</sup>	ND<0.00051	ND<0.00017	ND<0.00026	ND<0.030	ND<0.34
	12/6/2005	66.5	ND<0.15	ND<0.00071	0.0056	0.0020 <sup>J</sup>	0.014	0.0084	ND<0.00049	ND<0.00016	ND<0.00025	ND<0.028	ND<0.32
	12/6/2005	71.0	0.62	0.0039 <sup>J</sup>	0.073	0.019	0.12	0.0040 <sup>J</sup>	ND<0.00051	ND<0.00017	ND<0.00025	ND<0.029	ND<0.33
	12/6/2005	76.0	1.7	ND<0.00079	0.013	0.014	0.092	0.0028 <sup>J</sup>	ND<0.00055	ND<0.00018	ND<0.00027	ND<0.032	ND<0.36
	12/6/2005	81.0	0.26	ND<0.00091	0.0041 <sup>J</sup>	0.0018 <sup>J</sup>	0.011 <sup>J</sup>	0.0082	ND<0.00063	ND<0.00021	ND<0.00031	ND<0.036	ND<0.41
	12/6/2005	86.0	0.35	ND<0.00079	0.0052	0.0037 <sup>J</sup>	0.023	0.0050 <sup>J</sup>	ND<0.00055	ND<0.00018	ND<0.00027	ND<0.032	ND<0.36
	12/6/2005	91.5	0.49	0.00070 <sup>J</sup>	0.023	0.0091	0.054	0.28	ND<0.00041	ND<0.00013	ND<0.00021	ND<0.024	ND<0.27
CB-5	12/6/2005	95.5	0.61	0.0011 <sup>J</sup>	0.032	0.010	0.056	0.34	ND<0.00042	ND<0.00014	ND<0.00021	ND<0.024	ND<0.28
	12/6/2005	100.5	0.26	ND<0.00059	0.0069	0.0032 <sup>J</sup>	0.022	0.016	ND<0.00041	ND<0.00013	ND<0.00021	ND<0.024	ND<0.27
	12/7/2005	5.0	ND<0.15	ND<0.00068	ND<0.0012	ND<0.0011	ND<0.0046	ND<0.00077	ND<0.00047	ND<0.00015	ND<0.00024	ND<0.027	ND<0.31
	12/7/2005	10.5	20	ND<0.00068	ND<0.0012	ND<0.0011	ND<0.0045	ND<0.00076	ND<0.00047	ND<0.00015	ND<0.00023	ND<0.027	ND<0.31
	12/7/2005	16.5	ND<0.12	ND<0.00058	ND<0.0010	ND<0.00094	ND<0.0039	ND<0.00066	ND<0.00041	ND<0.00013	ND<0.00020	ND<0.023	ND<0.27
	12/7/2005	20.5	ND<0.15	ND<0.00070	ND<0.0012	ND<0.0011	ND<0.0046	ND<0.00079	ND<0.00048	ND<0.00016	ND<0.00024	ND<0.028	ND<0.32
	12/7/2005	26.0	ND<0.15	ND<0.00070	ND<0.0012	ND<0.0011	ND<0.0046	ND<0.00079	ND<0.00048	ND<0.00016	ND<0.00024	ND<0.028	ND<0.32
	12/7/2005	30.5	ND<0.16	ND<0.00076	ND<0.0013	ND<0.0012	ND<0.0050	ND<0.00086	ND<0.00053	ND<0.00017	ND<0.00026	ND<0.030	ND<0.34
	12/7/2005	36.0	0.20	ND<0.00069	ND<0.0012	ND<0.0011	ND<0.0046	ND<0.00078	ND<0.00048	ND<0.00016	ND<0.00024	ND<0.028	ND<0.31
	12/7/2005	40.5	2.3	ND<0.00074	0.0013 <sup>J</sup>	ND<0.0012	ND<0.0050	ND<0.00084	ND<0.00051	ND<0.00017	ND<0.00026	ND<0.030	ND<0.34
	12/7/2005	45.5	0.62	ND<0.00069	ND<0.0012	ND<0.0011	ND<0.0046	ND<0.00078	ND<0.00048	ND<0.00016	ND<0.00024	ND<0.028	ND<0.31
	12/7/2005	50.5	19	ND<0.00068	0.041	0.17	1.4	ND<0.00076	ND<0.00047	ND<0.00015	ND<0.00023	ND<0.027	ND<0.31
	12/7/2005	56.0	13	0.0013 <sup>J</sup>	0.091	0.10	0.79	0.0029 <sup>J</sup>	ND<0.00047	ND<0.00015	ND<0.00024	ND<0.027	ND<0.31
	12/7/2005	60.5	0.28	ND<0.00063	0.0031 <sup>J</sup>	0.0022 <sup>J</sup>	0.016	0.0011 <sup>J</sup>	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.025	ND<0.29
12/7/2005	66.5	0.30	ND<0.00058	0.024	0.010	0.074	0.074	0.0038 <sup>J</sup>	ND<0.00041	ND<0.00013	ND<0.00020	ND<0.023	ND<0.27
	70.5	1.7	ND<0.00063	0.022	0.026	0.026	0.20	0.0013 <sup>J</sup>	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.025	ND<0.29
	75.5	0.21	ND<0.00071	0.0028 <sup>J</sup>	0.0028 <sup>J</sup>	0.0020 <sup>J</sup>	0.013	0.0035 <sup>J</sup>	ND<0.00049	ND<0.00016	ND<0.00025	ND<0.028	ND<0.32
	81.0	ND<0.17	ND<0.00078	ND<0.0014	ND<0.0012	ND<0.0012	ND<0.0052	0.0017 <sup>J</sup>	ND<0.00054	ND<0.00018	ND<0.00027	ND<0.031	ND<0.35
	85.5	ND<0.15	ND<0.00068	0.0013 <sup>J</sup>	0.0013 <sup>J</sup>	ND<0.0011	0.0063 <sup>J</sup>	0.0049	ND<0.00047	ND<0.00015	ND<0.00024	ND<0.027	ND<0.31

Table 2

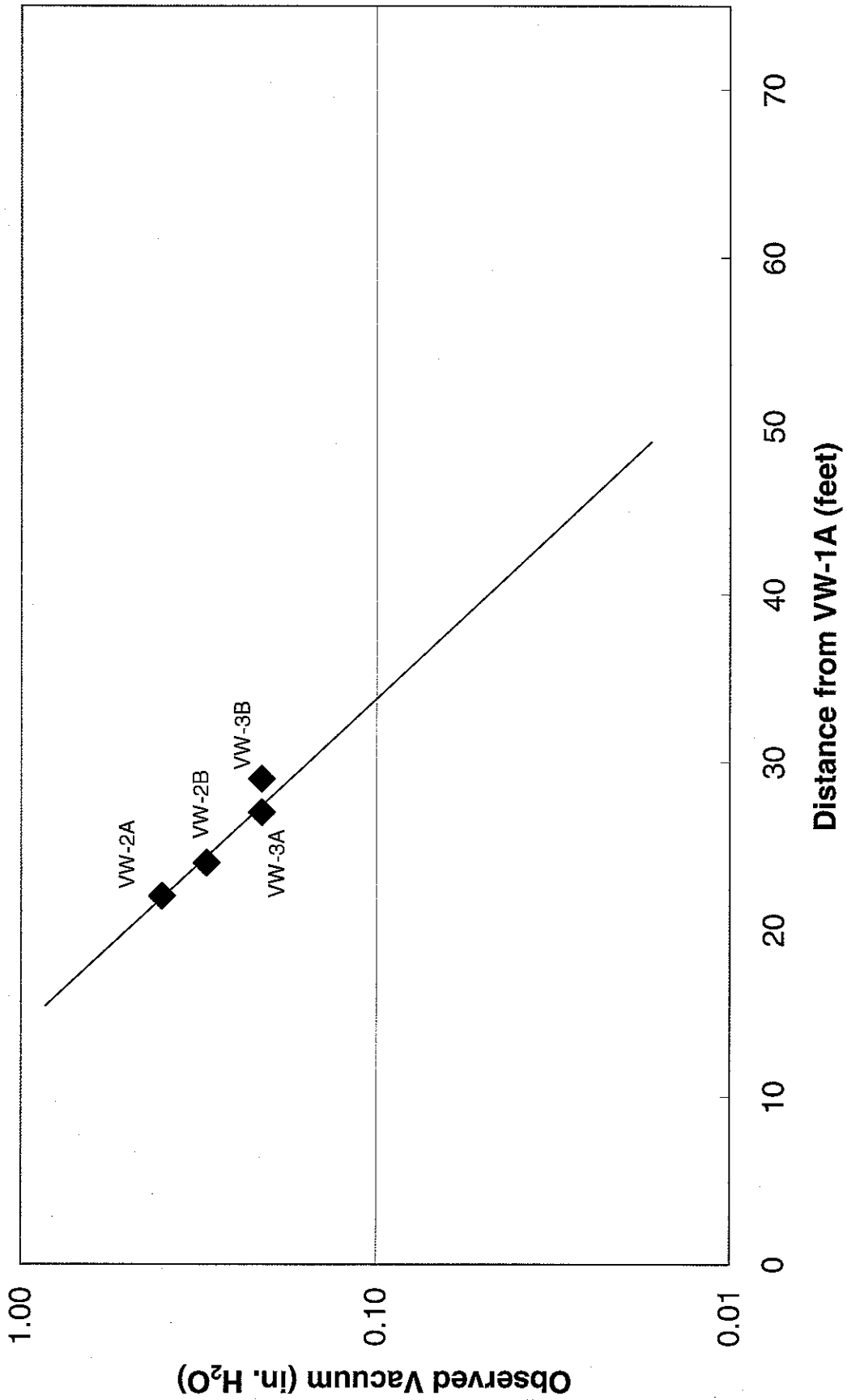
**RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES-CONFIRMATION BORINGS**  
Former 76 Station 0353

Boring Number	Sample Date	Depth (ftg)	TPPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Ethanol (mg/kg)
EPA Method 8260B													
CB-5 (cont'd)	12/7/2005	91.0	0.45	ND<0.00062	0.0013 <sup>J</sup>	0.0011 <sup>J</sup>	0.0077 <sup>J</sup>	0.0095	ND<0.00043	ND<0.00014	ND<0.00021	ND<0.025	ND<0.28
	12/7/2005	96.5	0.59	ND<0.00058	ND<0.0010	ND<0.00092	ND<0.0038	0.42	ND<0.00040	ND<0.00013	ND<0.00020	ND<0.023	ND<0.26
	12/7/2005	101.0	ND<0.14	ND<0.00064	ND<0.0011	ND<0.0010	ND<0.0042	0.0081	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.026	ND<0.29
CB-6	12/8/2005	5.0	ND<0.13	0.00062 <sup>J</sup>	ND<0.0011	ND<0.00098	ND<0.0041	ND<0.00070	ND<0.00043	ND<0.00014	ND<0.00021	ND<0.025	ND<0.28
	12/8/2005	11.0	ND<0.17	ND<0.00079	ND<0.0014	ND<0.0013	ND<0.0052	ND<0.00089	ND<0.00055	ND<0.00018	ND<0.00027	ND<0.032	ND<0.36
	12/8/2005	15.5	ND<0.14	ND<0.00068	ND<0.0012	ND<0.0011	ND<0.0045	ND<0.00076	ND<0.00047	ND<0.00015	ND<0.00023	ND<0.027	ND<0.31
	12/8/2005	20.5	0.22	ND<0.00065	ND<0.0011	ND<0.0010	ND<0.0044	ND<0.00074	ND<0.00045	ND<0.00015	ND<0.00023	ND<0.026	ND<0.30
	12/8/2005	25.5	ND<0.14	ND<0.00064	ND<0.0011	ND<0.0010	ND<0.0042	ND<0.00072	ND<0.00044	ND<0.00014	ND<0.00022	ND<0.026	ND<0.29
	12/8/2005	30.5	ND<0.15	ND<0.00069	ND<0.0012	ND<0.0011	ND<0.0046	ND<0.00078	ND<0.00048	ND<0.00016	ND<0.00024	ND<0.028	ND<0.31
	12/8/2005	35.5	ND<0.14	ND<0.00068	ND<0.0012	ND<0.0011	ND<0.0045	ND<0.00076	ND<0.00047	ND<0.00015	ND<0.00023	ND<0.027	ND<0.31
	12/8/2005	40.5	ND<0.14	ND<0.00068	ND<0.0012	ND<0.0011	ND<0.0045	ND<0.00076	ND<0.00047	ND<0.00015	ND<0.00023	ND<0.027	ND<0.31
	12/8/2005	45.5	1.1	0.0044	0.084	0.036	0.34	0.0074 <sup>J</sup>	ND<0.00042	ND<0.00014	ND<0.00021	ND<0.024	ND<0.27
	12/8/2005	50.5	0.27	0.00061 <sup>J</sup>	0.0083	0.0026 <sup>J</sup>	0.033	0.0012 <sup>J</sup>	ND<0.00042	ND<0.00014	ND<0.00021	ND<0.024	ND<0.27
	12/8/2005	55.5	9.6	0.0049	0.12	0.059	0.44	0.010	ND<0.00041	ND<0.00013	ND<0.00021	ND<0.024	ND<0.27
	12/8/2005	60.5	ND<0.17	ND<0.00078	0.0030 <sup>J</sup>	0.0016 <sup>J</sup>	0.010	0.0013 <sup>J</sup>	ND<0.00054	ND<0.00018	ND<0.00027	ND<0.031	ND<0.35
	12/8/2005	65.5	0.27	ND<0.00062	0.0064	0.0037 <sup>J</sup>	0.028	0.0017 <sup>J</sup>	ND<0.00043	ND<0.00014	ND<0.00022	ND<0.025	ND<0.28
	12/8/2005	70.5	0.22	ND<0.00065	ND<0.0011	ND<0.0010	ND<0.0044	ND<0.00074	ND<0.00045	ND<0.00015	ND<0.00023	ND<0.026	ND<0.30
	12/8/2005	76.0	0.15 <sup>J</sup>	ND<0.00065	ND<0.0011	ND<0.0010	ND<0.0044	0.028	ND<0.00045	ND<0.00015	ND<0.00023	ND<0.026	ND<0.30
	12/8/2005	81.0	0.33	ND<0.00058	ND<0.0010	ND<0.00094	ND<0.0039	0.24	ND<0.00041	ND<0.00013	ND<0.00020	ND<0.023	ND<0.27
	12/8/2005	86.0	0.42	ND<0.00065	ND<0.0011	ND<0.0010	ND<0.0044	0.32	ND<0.00045	ND<0.00015	ND<0.00023	ND<0.026	ND<0.30
	12/8/2005	91.5	0.45	ND<0.00056	ND<0.00098	ND<0.00090	ND<0.0038	0.35	ND<0.00039	ND<0.00013	ND<0.00020	ND<0.022	ND<0.26
	12/8/2005	96.0	0.45	ND<0.00056	ND<0.00098	ND<0.00090	ND<0.0038	0.41	ND<0.00039	ND<0.00013	ND<0.00020	ND<0.022	ND<0.26
	12/8/2005	101.0	0.18	ND<0.00058	ND<0.0010	ND<0.00094	ND<0.0039	0.087	ND<0.00041	ND<0.00013	ND<0.00020	ND<0.023	ND<0.27
NOTES:													
TPPH	= total purgeable petroleum hydrocarbons			TBA	= tertiary-butyl alcohol								
MTBE	= methyl tertiary butyl ether			ND	= not detected at the detection limit indicated								
DIPE	= di-isopropyl ether			fbg	= feet below grade								
TAME	= tertiary-amyyl methyl ether			mg/kg	= milligrams per kilogram								
ETBE	= ethyl tertiary-butyl ether			J	= estimated value; between the Practical Quantitation Limit and Method Detection Limit								

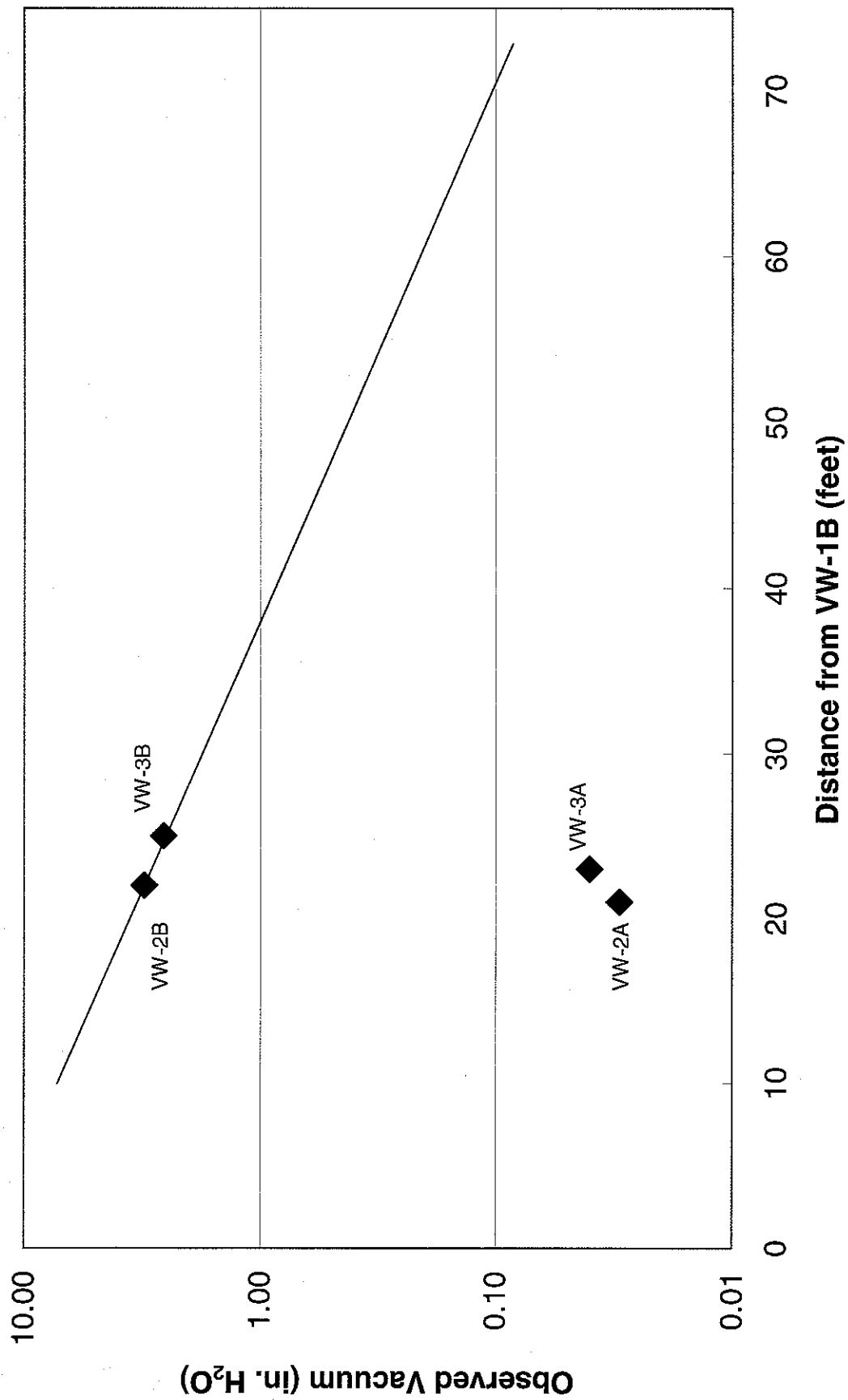
**Chart 1**  
**Vapor Extraction Step Test Data**  
Former 76 Station 0353  
Glendale, CA



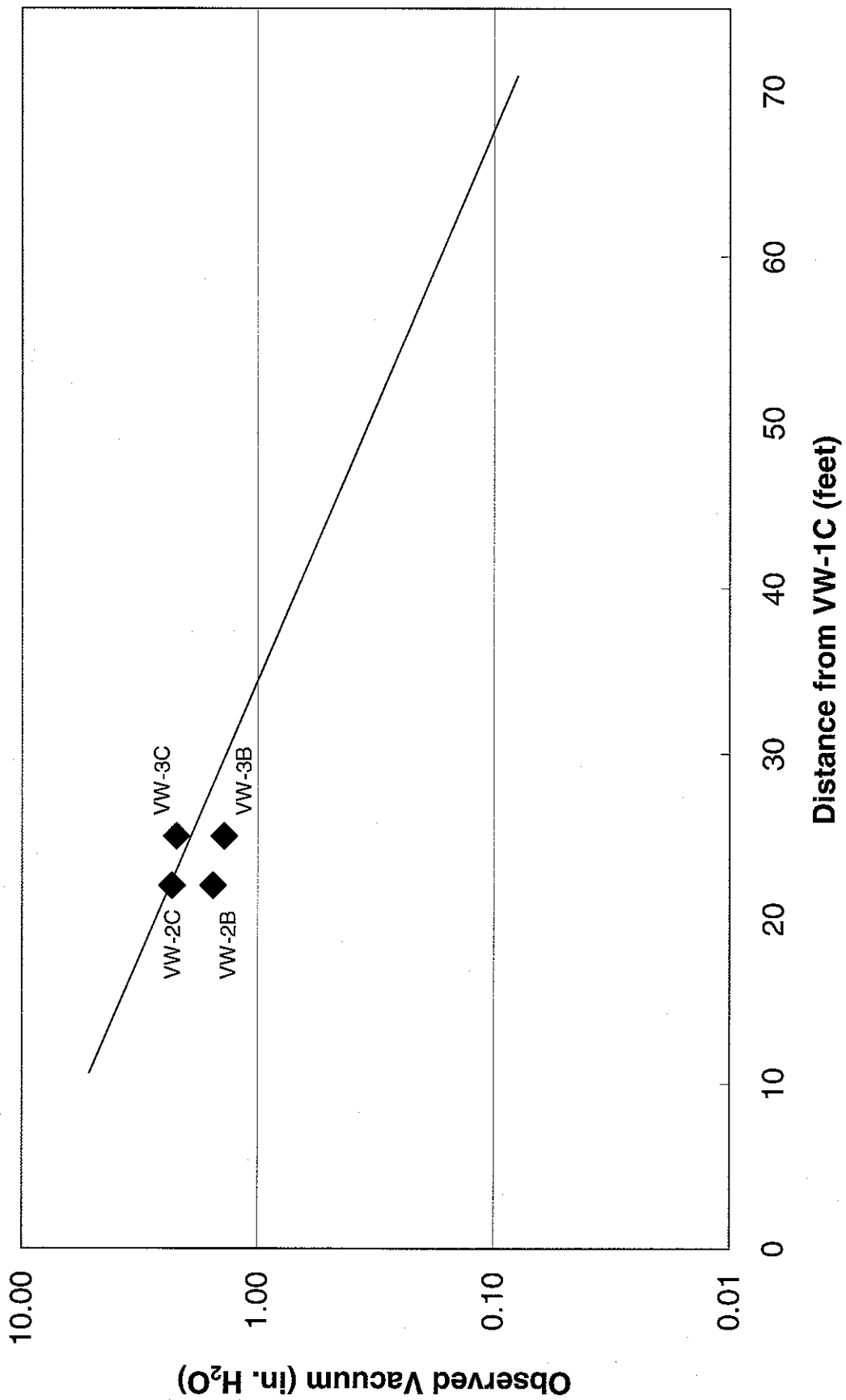
**Chart 2**  
**Vapor Extraction Radius of Influence-Well VW-1A**  
Former 76 Station 0353  
Glendale, CA



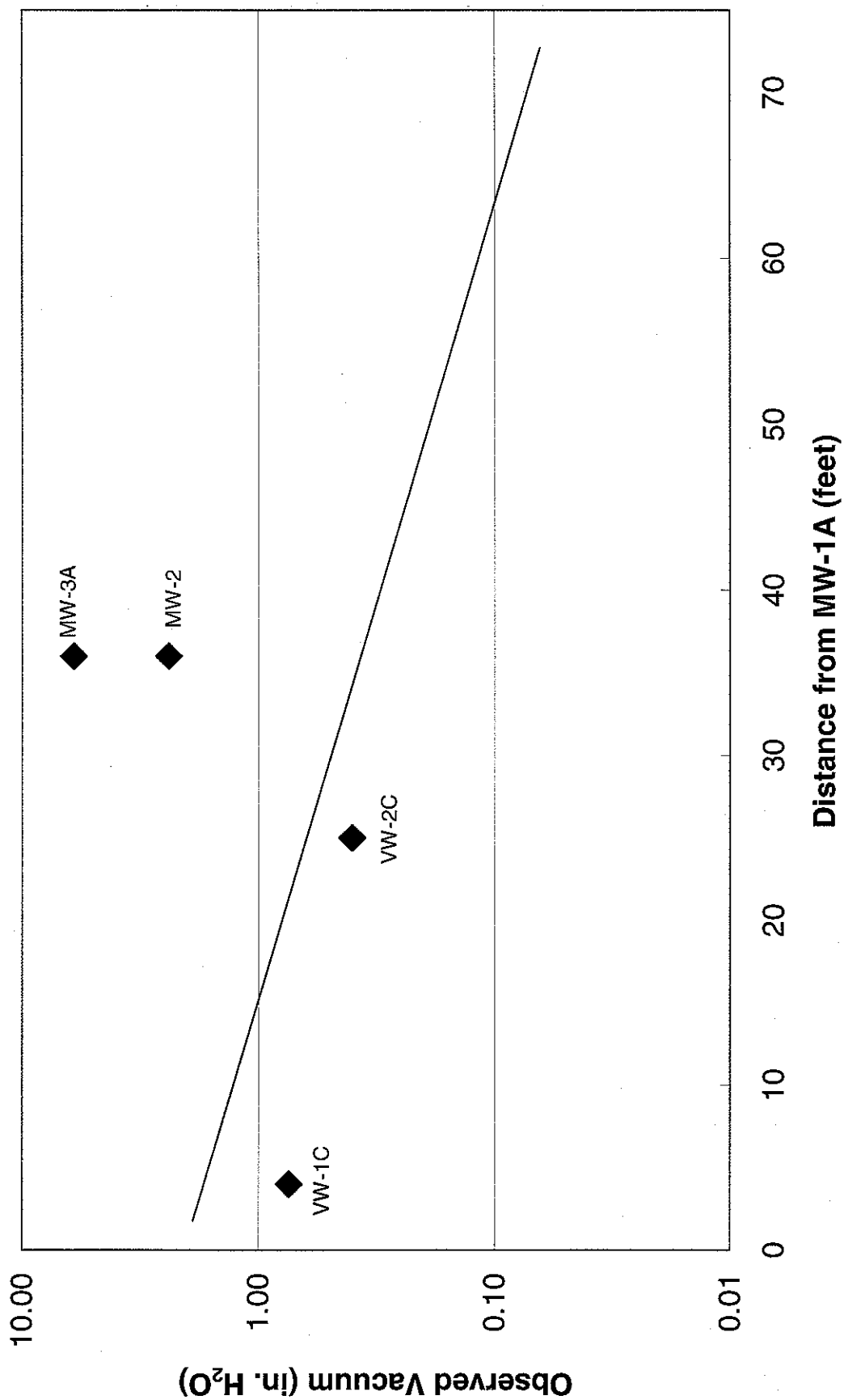
**Chart 3**  
**Vapor Extraction Radius of Influence-Well VW-1B**  
Former 76 Station 0353  
Glendale, CA



**Chart 4**  
**Vapor Extraction Radius of Influence-Well VW-1C**  
Former 76 Station 0353  
Glendale, CA



**Chart 5**  
**Vapor Extraction Radius of Influence-MW-1A**  
Former 76 Station 0353  
Glendale, CA

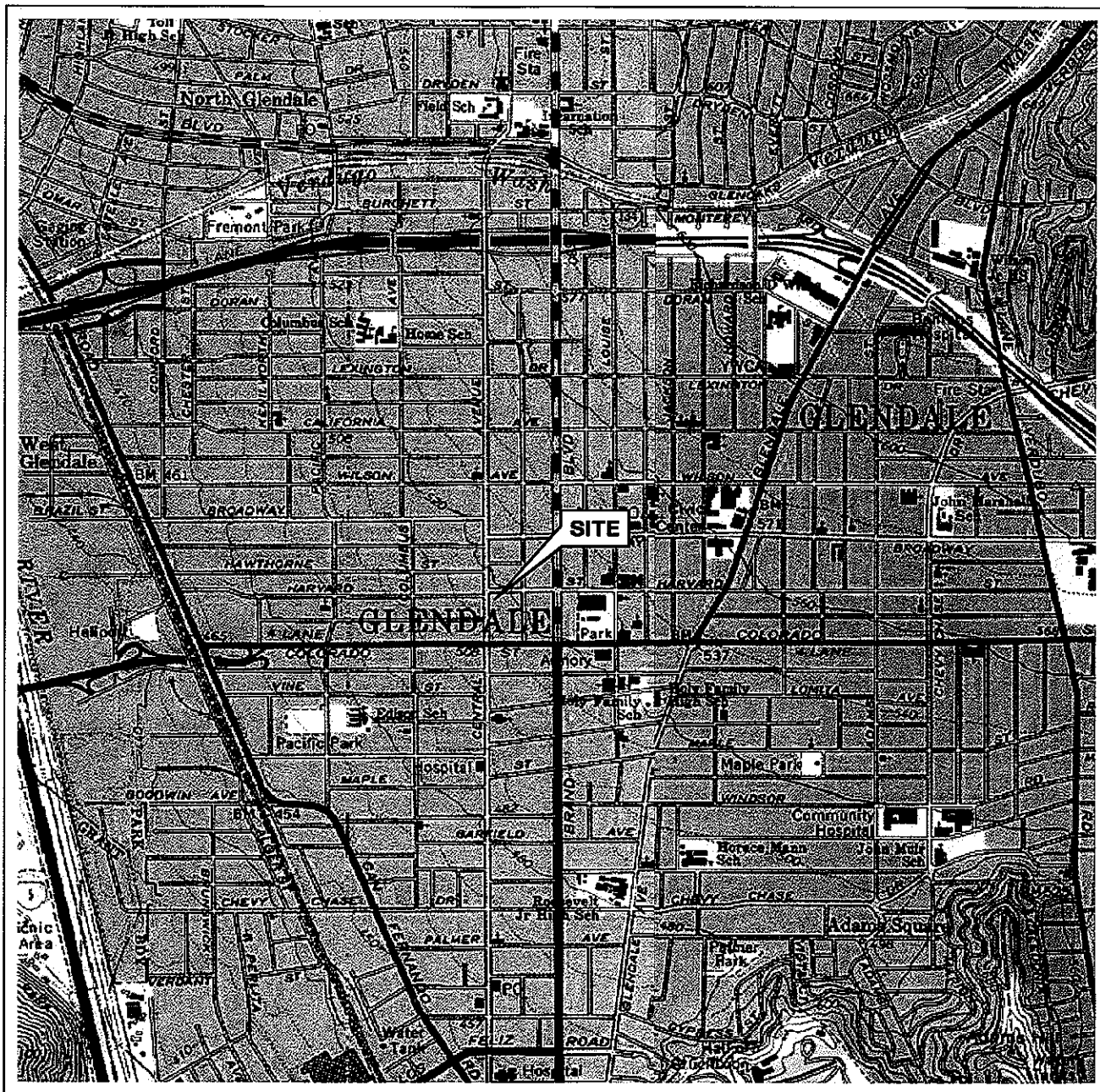




**Report of Remediation and Confirmation Sampling Activities**  
Former 76 Station 0353  
January 31, 2006

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**FIGURES**



0 1/4 1/2 3/4 1 MILE

SCALE 1:24,000



**SOURCE:**

United States Geological Survey  
7.5 Minute Topographic Map:  
Pasadena Quadrangle



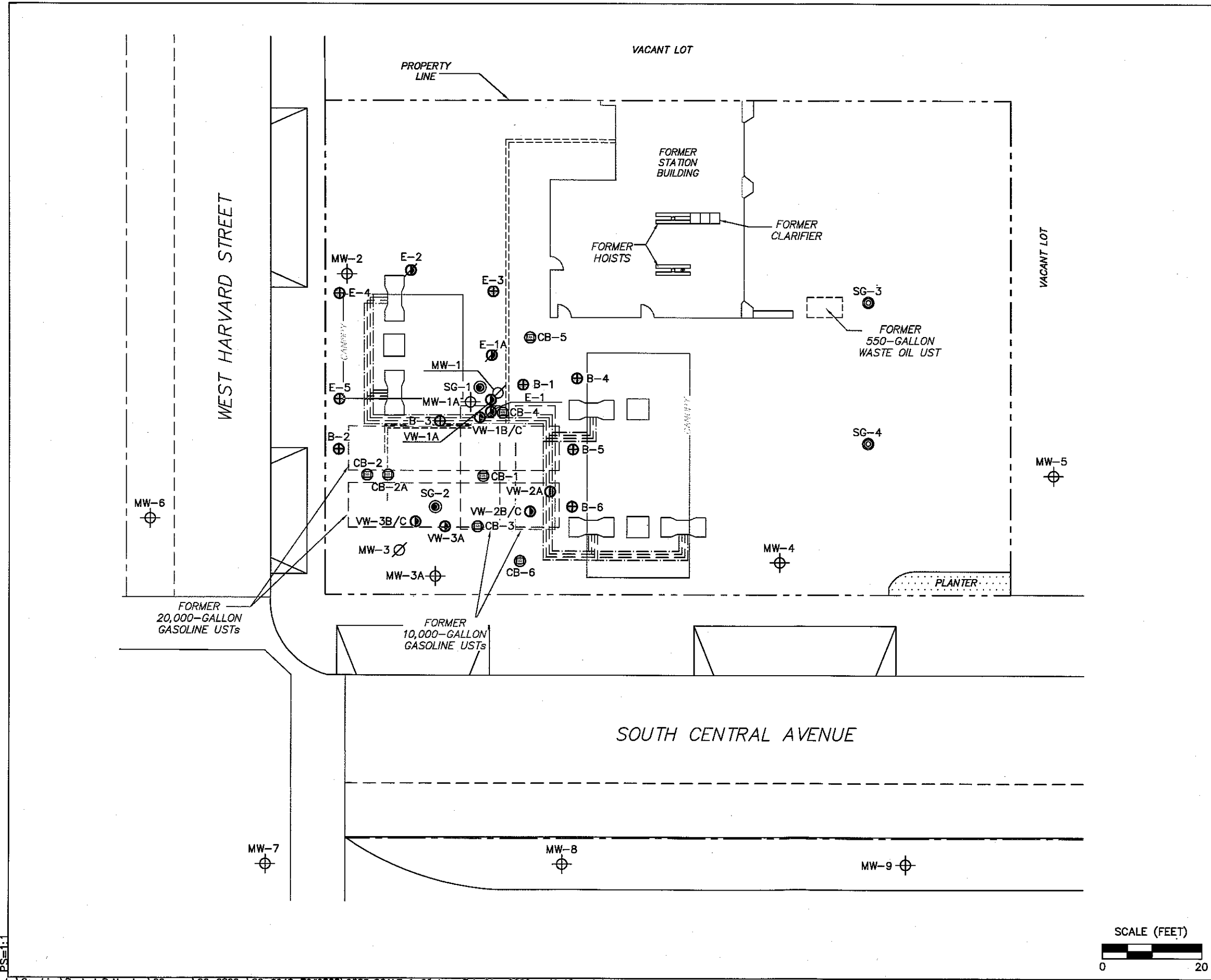
QUADRANGLE  
LOCATION

**VICINITY MAP**

Former 76 Station 0353  
200 South Central Avenue  
Glendale, California

**FIGURE 1**

**TRC**

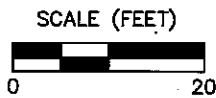


**LEGEND**

- SG-4 ● Soil Gas Probe
- SG-2 ● Soil Gas Probe Cluster
- VW-3B/C ① Vapor Well
- MW-3 ∅ Abandoned Monitoring Well
- E-2 ∅ Abandoned Vapor Well
- MW-9 ⊕ Monitoring Well
- B-6 ⊕ Boring
- CB-6 ⊕ Confirmation Boring
- Dispenser Island
- Canopy Support

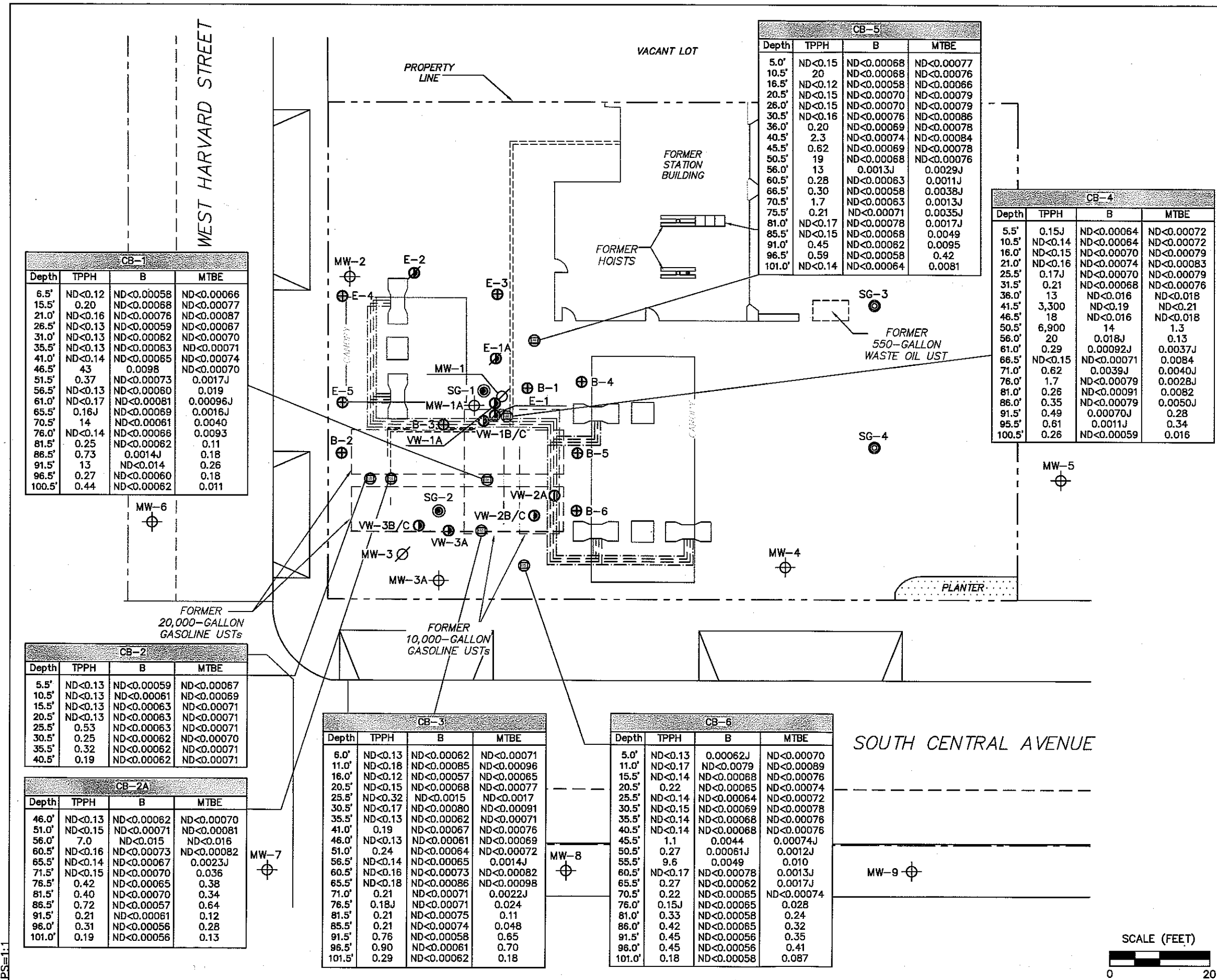
**NOTES:**  
 Modified from a map provided by EP Associates, dated 01/05. UST = underground storage tank.

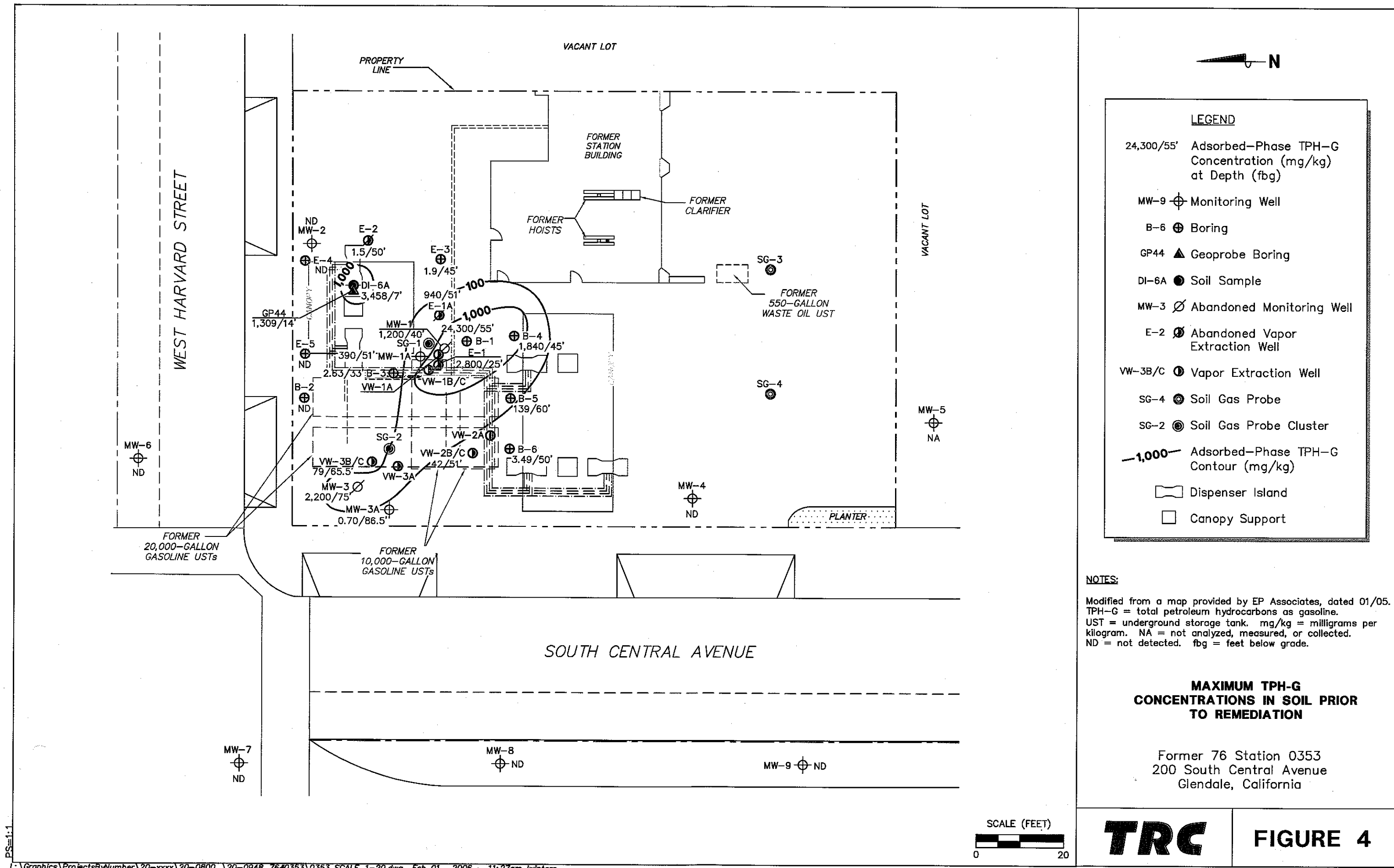
**SITE PLAN**  
 Former 76 Station 0353  
 200 South Central Avenue  
 Glendale, California

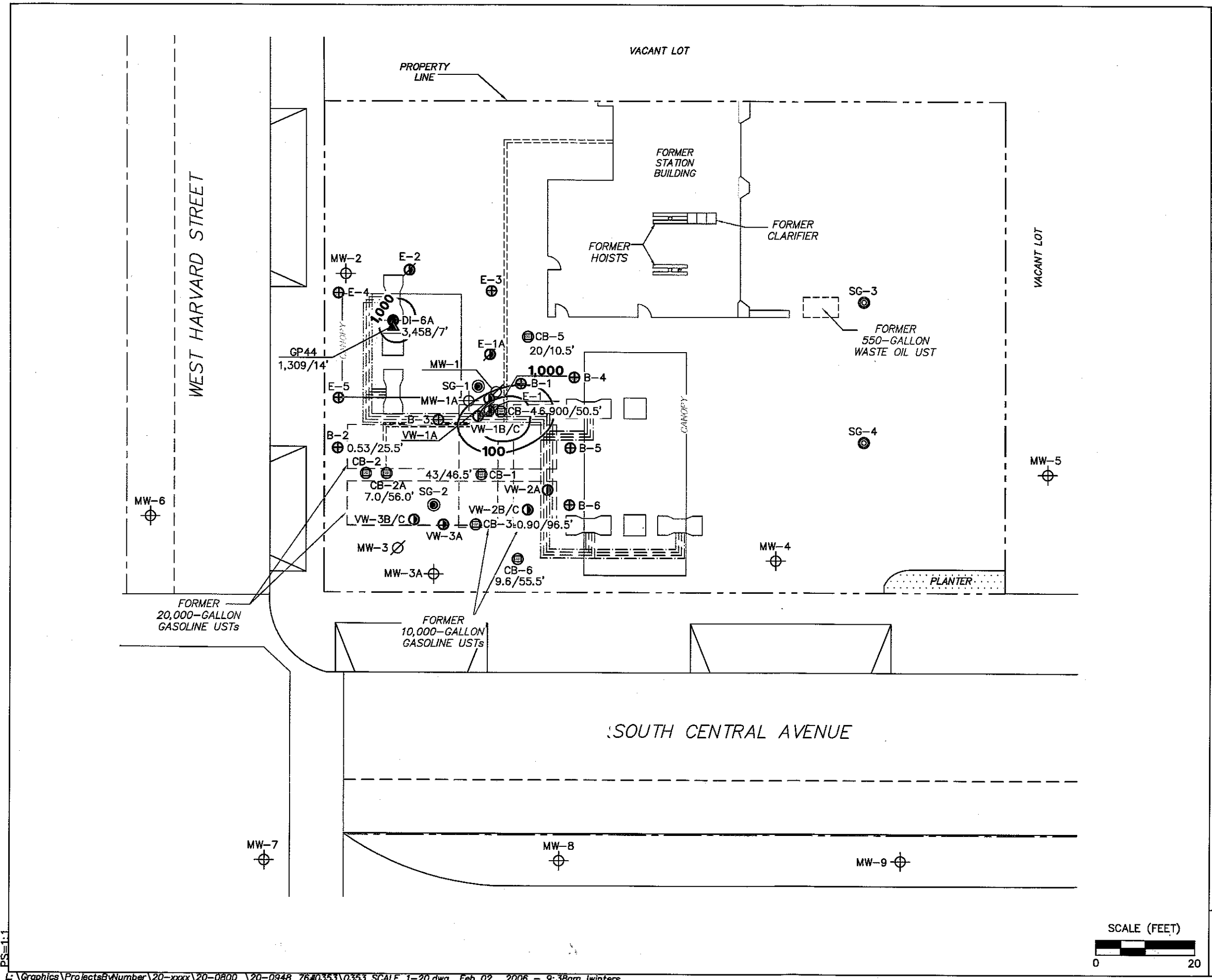


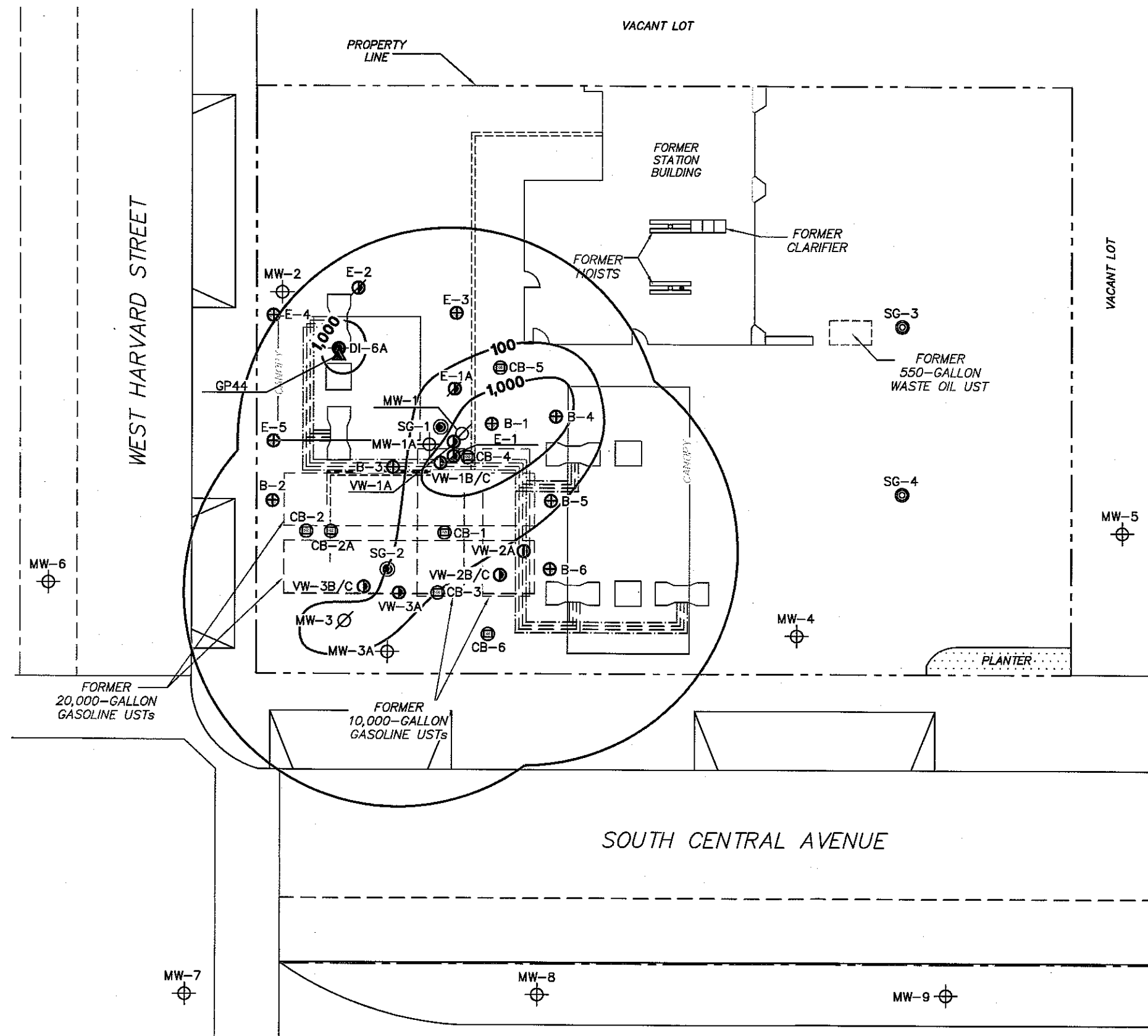
**TRC**

**FIGURE 2**









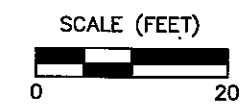
**LEGEND**

- MW-9 ⊕ Monitoring Well
- B-6 ⊕ Boring
- GP44 ▲ Geoprobe Boring
- DI-6A ● Soil Sample
- E-2 ⊗ Abandoned Vapor Extraction Well
- VW-3B/C ⊕ Vapor Extraction Well
- SG-4 ⊙ Soil Gas Probe
- SG-2 ⊙ Soil Gas Probe Cluster
- CB-6 ⊕ Confirmation Boring
- MW-3 ⊗ Abandoned Monitoring Well
- 1,000— Adsorbed-Phase TPH-G Contour (mg/kg)
- Dispenser Island
- Canopy Support
- Vapor Extraction Radius of Influence (36 feet)

**NOTES:**  
 Modified from a map provided by EP Associates, dated 01/05. UST = underground storage tank.

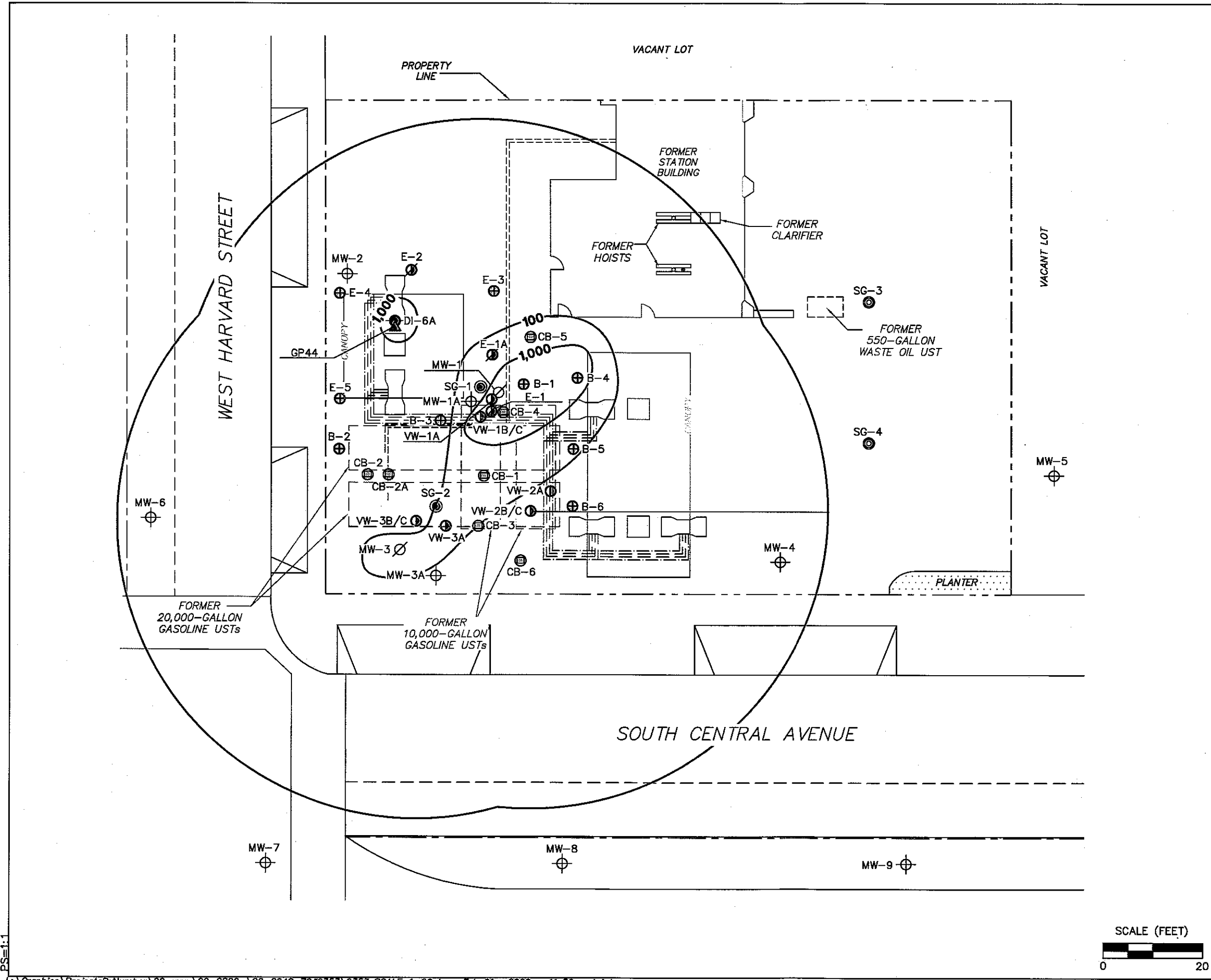
**EFFECTIVE RADIUS OF INFLUENCE FOR 'A ZONE'**

Former 76 Station 0353  
 200 South Central Avenue  
 Glendale, California



**TRC**

**FIGURE 6**



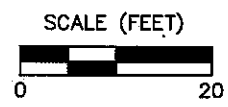
**LEGEND**

- MW-9 ⊕ Monitoring Well
- B-6 ⊕ Boring
- GP44 ▲ Geoprobe Boring
- DI-6A ● Soil Sample
- E-2 ⊗ Abandoned Vapor Extraction Well
- VW-3B/C ⊕ Vapor Extraction Well
- SG-4 ⊕ Soil Gas Probe
- SG-2 ⊕ Soil Gas Probe Cluster
- CB-6 ⊕ Confirmation Boring
- MW-3 ⊗ Abandoned Monitoring Well
- 1,000— Adsorbed-Phase TPH-G Contour (mg/kg)
- Dispenser Island
- Canopy Support
- Vapor Extraction Radius of Influence (60 feet)

**NOTES:**  
 Modified from a map provided by EP Associates, dated 01/05. UST = underground storage tank.

**EFFECTIVE RADIUS OF INFLUENCE FOR 'B/C/D ZONE'**

Former 76 Station 0353  
 200 South Central Avenue  
 Glendale, California



**TRC**

**FIGURE 7**